

Environment Energy Consultants

2350 SEVENTH BOULEVARD / ST. LOUIS, MISSOURI 63104 / 314-773-0066

RECEIVED
JAN 14 1981
REITZ & JENS, INC.

January 12, 1981

Mr. David Murray
Vice-President
Reitz & Jens, Inc.
1040 N. Lindbergh Boulevard
St. Louis, MO. 63132

80-12-323

Dear Dave:

On December 23, 1980 Environment & Energy Consultants, Inc. collected a sample of the wastewater discharge from the treatment system at Westlake Quarries. The sample was obtained from the meter pit where the water discharges to the MSD sewer. The sample was analyzed in our laboratories for the parameters necessary for reporting to the Industrial Waste Division of MSD. The results are as follows:

	PARAMETER	CONCENTRATION	<u>RAW - Leadate</u> <u>ORIGINAL TEST</u>
<u>MAA</u> 300	B.O.D. ₅ , mg/l	304	
<u>MAA</u> 10	Iron, mg/l	1.4	70
<1	Zinc, mg/l	0.16	4
	Suspended Solids, mg/l	62.5	
	pH	9.3	5.6

Respectfully submitted,

ENVIRONMENT ENERGY CONSULTANTS, INC.

E. Edgerley

E. Edgerley, Jr., Ph.D., P.E.
President

EE:ck
cc: Bill Canney, Westlake Quarries

30# / 100g
Leadate

C

Environment Energy Consultants

2350 SEVENTH BOULEVARD / ST. LOUIS, MISSOURI 63104 / 314-773-0068

REITZ & JENS, INC.
FEB 12 1980

Reitz and Jens, Inc.
111 So. Meramec Avenue
St. Louis, Mo. 63105

DATE February 11, 1980

REPORT NO.

PURCHASE ORDER NO.

Attn: Mr. David Murray

TERMS: NET 30 DAYS

PROFESSIONAL SERVICES:

RE: Westlake Quarries Landfill Leachate

Laboratory evaluation of Westlake Landfill
Leachate treatability, preliminary design
report, conferences with D. Murray re
design of treatment plant, conferences with
equipment suppliers to date

\$950.00

EM
8

We hereby certify that these goods were produced in compliance with all applicable requirements of section 6, 7 and 12 of the Fair Labor Standards Act, as amended, and of regulations and orders of the United States Department of Labor issued under Section 14 thereof.

KINDLY REMIT FROM THIS INVOICE. NO MONTHLY STATEMENTS ARE ISSUED.

Environment Energy Consultants

2350 SEVENTH BOULEVARD / ST. LOUIS, MISSOURI 63104 / 314-773-0066

July 28, 1981

Mr. William Canney
WEST LAKE LANDFILL
13570 St. Charles Rock Road
Bridgeton, Missouri 63042

Project No.: 7-81-8 EEC

Dear Bill:

At 3:30 pm on July 15, 1981 you collected, in my presence, a grab sample of effluent from the leachate wastewater treatment plant from the meter pit where it discharges to the MSD sewer. The laboratory results of the analysis are reported below. On the same visit a grab sample was also obtained for evaluation from the aerated lagoon and the analysis is also reported below.

<u>PARAMETER</u>	<u>EFFLUENT TO MSD SEWER</u>	<u>AERATED LAGOON</u>
pH	8.8	9.0
B.O.D. ₅ , mg/l	48	61
C.O.D., mg/l	376	316
Iron, mg/l	0.34	0.41
Zinc, mg/l	0.04	0.04
Suspended Solids, mg/l	63	110

Respectfully submitted,

ENVIRONMENT & ENERGY CONSULTANTS, INC.

E. Edgerley, Jr. (tgm)
E. Edgerley, Jr., Ph.D., P.E.
President

cc: Dave Murray
Reitz & Jens, Inc.

Environment Energy Consultants

2350 SEVENTH BOULEVARD / ST. LOUIS, MISSOURI 63104 / 314-773-0066

December 7, 1981

WESTLAKE LANDFILL
Route 1, Box 206
Bridgeton, Missouri 63042

EEC Report Nos. 11-81-1
11-81-5

ATTENTION: William Canney

REPORT OF WATER SAMPLE ANALYSES

The following analyses were conducted on water samples submitted on November 12 and 19, 1981:

<u>SAMPLE IDENTIFICATION</u>	<u>ph</u>	<u>COD, mg/l</u>	<u>Zn, mg/l</u>	<u>Fe, mg/l</u>
Holding Lagoon, 11/12/81	7.87	296	0.05	0.51
Black Diamond Lake #1, 11/19	7.68	348	0.05	1.02
Lagoon, South End #2, 11/19	7.95	307	0.04	0.78
Lagoon to Treat. Plant, 11/19	8.06	316	0.04	1.02
Treatment Plant Effluent, 11/19	9.99	299	0.04	0.29

Respectfully submitted,

ENVIRONMENT AND ENERGY CONSULTANTS, INC.



E. Edgerley, Jr., Ph.D., P.E.
President

EE:tgm

cc: Dave Murray, Reitz & Jens, Inc.

Environment & Energy Consultants

11911 Borman Drive / St. Louis, Missouri 63141 / 314-432-7000

December 31, 1981

WEST LAKE LANDFILL, INC.
13570 St. Charles Rock Road
Bridgeton, Missouri 63044

Attention: Mr. Bill Canney

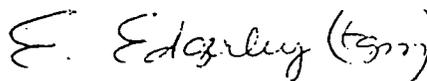
Report No. 12-81-5

The following are the results of examination of five (5) water samples delivered to our laboratories December 4, 1981:

<u>SAMPLE IDENTIFICATION</u>	<u>pH</u>	<u>C.O.D., mg/l</u>	<u>Iron, mg/l</u>	<u>Zinc, mg/l</u>
Accelator	7.86	174	0.33	0.04
Black Diamond Lake	7.69	197	0.41	0.07
MSD	7.80	152	0.41	0.04
Holding Lagoon	7.85	193	0.61	0.11
Landfill Leachate	7.75	996	10.0	0.48

Respectfully submitted,

ENVIRONMENT & ENERGY CONSULTANTS, INC.



E. Edgerley, Jr., Ph.D., P.E.
President

EE:tgm

cc: Dave Murray, Reitz & Jens, Inc.

REITZ & JENS, INC.

NEW ADDRESS

1040 N. LINDBERGH

ST. LOUIS, MO. 63137

111 S. MERAMEC AVENUE • CLAYTON, MISSOURI 63105 • PHONE (314) 727-0403

MESSAGE

TO [BILL CANNEY]

SUBJECT WEST LAKE LANDFILL

[]

DATE 12-30-81

BILL:

Ed Edgerley called back about test results of the last water sample taken from the holding lagoon.

He said its OK to bypass the Accelerator and pump directly from the holding lagoon to the first aeration lagoon. The holding lagoon should be sampled again next month for verification to MSD that its OK.

BY Dave Murray

REPLY

DATE

cc WJM ✓
VF

SIGNED

Environment Energy Consultants

11911 Borman Drive / St. Louis, Missouri 63141 / 314-432-7000

JAN 12 1982

January 12, 1982

Mr. David Murray
Vice President
Reitz & Jens, Inc.
1040 North Lindbergh Boulevard
St. Louis, Missouri 63152

Report No.: 12-81-5

Dear Dave:

On December 4, 1981, a sample of wastewater discharge from the treatment system at West Lake Landfill was delivered to our laboratories for analysis. It is our understanding that the sample was collected from the meter pit where the water discharges to the MSD Sewer. The sample was analyzed for the parameters required for reporting to the Industrial Waste Division of MSD. The results are as follows:

<u>PARAMETER</u>	<u>CONCENTRATION</u>
pH	7.8
C.O.D., mg/l	152
Zinc, mg/l	0.04
Iron, mg/l	0.41

Respectfully submitted,

ENVIRONMENT & ENERGY CONSULTANTS, INC.

E. Edgerley, Jr., Ph.D., P.E.
President

EE:tg

CONSULTING ENGINEERS

January 13, 1982

Mr. Bill Canney
West Lake Landfill
13570 St. Charles Rock Rd.
Bridgeton, MO 63044

Re: West Lake Landfill

Dear Bill:

Attached is a copy of Environment Energy Consultants' test report,
dated 1/12/82 of wastewater discharge from West Lake Landfill to MSD.

Please submit this test result with your report letter to MSD.

Any questions, please call.

Very truly yours,


DAVID E. MURRAY

Encl.
DEM/rs

cc V.F. ✓

Environment Energy Consultants

11911 Borman Drive / St. Louis, Missouri 63141 / 314-432-7000

March 19, 1982

WEST LAKE LANDFILL, INC.
13570 St. Charles Rock Road
Bridgeton, Missouri 63044

Report No.: 3-82-4 EEC

ATTENTION: Mr. Bill Canney

Dear Mr. Canney:

The following are the results of laboratory analyses of four (4) water samples submitted to our laboratories on March 8, 1982:

<u>PARAMETER</u>	<u>Black Diamond Lake</u>	<u>MSD Discharge</u>	<u>Holding Lagoon</u>	<u>Aeration Lagoon</u>
C. O. D., mg/l	122	262	244	244
B. O. D., mg/l	7	7	10	10
Zinc, mg/l	0.06	0.04	0.04	0.04
Iron, mg/l	0.46	0.70	0.74	0.65
pH	7.51	8.32	8.03	8.48

Respectfully submitted,

ENVIRONMENT & ENERGY CONSULTANTS, INC.


E. Edgerley, Jr., Ph.D., P.E.
President

EE:tgm

cc: Dave Murray, Reitz & Jens, Inc.

Environment Energy Consultants

11911 Borman Drive / St. Louis, Missouri 63141 / 314-432-7000

September 9, 1982
Report No. 8-82-5

Westlake Landfill
Route 1, Box 206
Bridgeton, Missouri 63042

Attention: Mr. William Canney

Report of Water Sample Analyses

The following results were obtained from water samples submitted on August 24, 1982:

<u>Sample Identification</u>	<u>Parameter</u>			
	<u>pH</u>	<u>COD, mg/l</u>	<u>Zn, mg/l</u>	<u>Fe, mg/l</u>
Leachate into Accelerator	7.7	1876	0.92	22
Effluent Out of Accelerator	11.2	1511	0.10	3.4
Lagoon No. 1 Effluent	9.0	1022	0.18	5.1
Lagoon No. 3 to MSD	8.6	825	0.12	2.8
Holding Lagoon	8.9	182	0.01	0.05

Respectfully submitted,

ENVIRONMENT & ENERGY CONSULTANTS, INC.



E. Edgerley, Jr., Ph.D., P.E.
President

cc: Dave Murray - Reitz and Jens, Inc.

1325/11

Environment Energy Consultants

11911 Borman Drive / St. Louis, Missouri 63141 / 314-432-7000

January 19, 1983

West Lake Landfill
13570 St. Charles Rock Road
Bridgeton, Missouri 63044

Attention: Mr. W. Canney

Re: EEC Report Nos. 1-83-9 and 1-83-10

Dear Mr. Canney:

The following are the results of laboratory analyses of two water samples submitted to our laboratories on January 13 and 14, 1983:

<u>Parameter</u>	<u>Discharge to MSD</u>	<u>Holding Lagoons</u>
pH	8.36	7.44
BOD, mg/l	15.	-
COD, mg/l	101.	94.
Total Suspended Solids, mg/l	10.	21.
Iron, mg/l	0.22	0.65
Zinc, mg/l	0.01	0.01

Please do not hesitate to call if you have any questions.

Sincerely,

ENVIRONMENT & ENERGY CONSULTANTS, INC.



E. Edgerley, Jr., Ph.D., P.E.
President

cc: Reitz & Jens, Inc.

Environment & Energy Consultants

11911 Borman Drive / St. Louis, Missouri 63141 / 314-432-7000

JAN 31 1983

January 27, 1983

Mr. David Murray
Vice President
Reitz & Jens, Inc.
1040 North Lindbergh Boulevard
St. Louis, Missouri 63102

Dear Dave:

On January 13, 1983, a sample of wastewater discharge from the treatment system at West Lake Landfill was delivered to our laboratories for analysis. It is our understanding that the sample was collected from the meter pit where the water discharges to the MSD Sewer. The sample was analyzed for the parameters required for reporting to the Industrial Waste Division of MSD. The results are as follows:

<u>PARAMETER</u>	<u>CONCENTRATION</u>
pH	8.36
C.O.D., mg/l	101.
Zinc, mg/l	0.01
Iron, mg/l	0.22

Respectfully submitted,

ENVIRONMENT & ENERGY CONSULTANTS, INC.



E. Edgerley, Jr., Ph.D., P.E.
President

REITZ & JENS, Inc. • 1040 North Lindbergh Boulevard • St. Louis, Missouri 63132 • 314 993-4132

CONSULTING ENGINEERS

January 31, 1983

Mr. Bernard A. Rains, Manager
Industrial Pollution Control
Metropolitan St. Louis Sewer District
10 E. Grand
St. Louis, MO 63147

Re: West Lake Landfill
Treatment Facilities

Dear Mr. Rains:

Attached, for your information and file, is a copy of the laboratory analysis of a sample of wastewater discharge taken from the meter pit where the water discharges to the MSD sewer.

Very truly yours,



DAVID E. MURRAY

Encl.

DEM/rs

cc: W. Canney ✓

44-075-1-203

LACLEDE GAS COMPANY

Laboratory Division

4118 SHREWSBURY
ST. LOUIS, MISSOURI 63119
(314) 644-6577

October 16, 1984

Burns & McDonnell
Attn: Mr. Robert M. Robinson
4800 East 63rd Street
P.O. Box 173
Kansas City, Mo. 64141

Dear Mr. Robinson:

This report concerns sampling and analysis performed at West Lakes Landfill in St. Louis County on August 31, 1984. Three (3) well water samples were collected using a teflon bailer that your firm furnished. These water samples were analyzed for the 128 priority pollutants. A sludge sample was also collected and analyzed for the EP toxicity procedure.

If there are any questions, please feel free to call.

Sincerely,

William T. Fitzgerald

WTF:eb

attachment

10-25-84



Mr. Robert M. Robinson

SLUDGE SAMPLE

<u>TEST PARAMETER</u>		<u>RESULTS</u>
Arsenic	mg/l	0.0232
Barium	"	*0.4
Cadmium	"	0.45
Chromium	"	0.896
Lead	"	3.03
Mercury	"	*0.0001
Selenium	"	*0.003
Silver	"	0.882
Solids	%	63.6
Volatiles 100°C	"	36.4
Volatiles 600°C	"	43.0
pH	units	9.5

*less than

LACLEDE GAS COMPANY

Laboratory Division

4118 SHREWSBURY
ST. LOUIS, MISSOURI 63119
(314) 644-6577

SLUDGE SAMPLE
PESTICIDES

ANALYSIS	AS RECEIVED	LAB CODE
Endrin	< 1. ppb	284-089-0150
Lindane	< 1. ppb	285-089-0150
Methoxychlor	< 20. ppb	286-089-0150
Toxaphene	< 50. ppb	287-089-0150
2,4-D	< 100. ppb	288-089-0300
2,4,5-TP	< 100. ppb	289-089-0300

The above analyses were performed on an EP Toxicity leachate of the submitted waste prepared according to the procedure specified in Federal Register May 19 1980 p. 33127.

Leachate Preparation:

150.0grams waste / 2400ml distilled water

Initial pH = 9.50 600ml of 0.5 Acetic Acid was used
to maintain the pH at 5.0 Final volume was 3000ml.

The characteristic of EP Toxicity is determined by whether any of the contaminant concentrations (mg/l) in the leachate exceed the following maxima (100 X's Primary Drinking Water Standards): Arsenic 5.0;
Barium 100.0; Cadmium 1.0; Chromium 5.0; Lead 5.0 ; Mercury 0.2;
Selenium 1.0; Silver 5.0; Endrin 0.02; Lindane 0.4; Methoxychlor 10.0
Toxaphene 0.5; 2,4-D 10.0; 2,4,5-TP 1.0

Engineering Surveys and Services

REGISTERED PROFESSIONAL ENGINEERS

James S. Reed
Larry L. Hendren
David A. Bennett
Paul D. Porter

1113 Fay Street
Columbia, Missouri 65201
Phone: (314) 449-2646

REGISTERED LAND SURVEYORS

James S. Reed
Morton L. Ratliff
Timothy J. Reed

March 7, 1986

Mr. Bill Channey
West Lakes Quarry
13570 St. Charles Rock Rd.
Bridgeton, MO 63044

RE: Water and Wastewater
Sampling and analysis

Dear Mr. Channey:

As per our conversation when we met at your facility in February, enclosed in the cooler please find sample bottles sufficient to perform sampling at the following monitoring points:

<u>ES&S Lab No.</u>	<u>West Lakes Quarry Facility</u>
1416-2	NPDES Discharge Outfall #002
1416-3	Plant #2
1416-4	Gray's Point
1416-5	Neeley's Quarry
1416-6	Barnhart
1416-7	Ste. Genevieve

Bottle markings should be self explanatory. Please note that the bottles containing acid do so for preservation purposes and should be handled with care when sampling to prevent spillage of acid or overfilling of the bottles. The amount of acid in these bottles is very small (1 milliliter or less).

Upon securing all samples, be sure lids are securely tightened, place bottles and frozen ice paks in cooler and ship to my office at the above address.

Due to holding times on some of the parameters, it is recommended that the samples be shipped no longer than 12 hours after procurement.

If you have any questions or need additional sample bottles, please contact me. Incidentally, we have completed analysis of the samples we secured during February, so you should be in receipt of those reports within about one week.

Sincerely,



David A. Bennett



ENVIRODYNE
ENGINEERS

12151 Lackland Road,
St. Louis, Missouri 63146
(314) 434-6960

REPORT OF ANALYSIS

CLIENT: WEST LAKE LANDFILL
13570 St. Charles Rock Road
Bridgeton, Missouri 63044
ATTN: Mr. Bill Canney

REPORT DATE: August 26, 1986
SAMPLE ANALYZED: Outfall #002

PROJ. #: 3060-00384
P.O. #:

DATE RECEIVED: July 24, 1986
METHODS USED: EPA Methods 405.1; 160.2;
410.1; 200.7; and 150.1

SAMPLE : OUTFALL #002

BIOCHEMICAL OXYGEN DEMAND (5-day), mg/l = 12

TOTAL SUSPENDED SOLIDS, mg/l = 9

CHEMICAL OXYGEN DEMAND, mg/l = 21

TOTAL ZINC, mg/l = 0.020

TOTAL NICKEL, mg/l = (0.004

LAB pH, units = 8.03

See reverse side for "STANDARD CLAUSES".



ENVIRODYNE
ENGINEERS
Invoice

DIRECT ALL INQUIRIES TO:
E E I
12161 LACKLAND ROAD
ST. LOUIS, MO 63146
(314) 434-6960

168 North Clinton Street, Chicago, Illinois 60606, (312) 648-1700

West Lake Landfill
13570 St. Charles Rock Road
Bridgeton, Missouri 63044

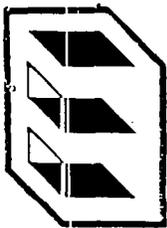
Attention: Mr. Bill Canney

Invoice no. 23992
Project no. 3060 384
Invoice date 8/30/86
Period ending Aug., 1986
Contract no.
Final billing / Partial billing

Professional laboratory analytical services performed for
sample submitted:

One Outfall sample for BOD, TSS, COD, Ni,
Zn, and lab pH
Reference 8/26/86 report

\$84.50



ENVIRODYNE
ENGINEERS

12161 Lackland Road,
St. Louis, Missouri 63146
(314) 434-6960

REPORT OF ANALYSIS

CLIENT: WEST LAKE LANDFILL
13570 St. Charles Rock Road
Bridgeton, Missouri 63044
ATTN: Mr. Bill Canney

REPORT DATE: October 2, 1986
SAMPLE ANALYZED: Outfall #002

PROJ. #: 3060-00384
P.O. #:

DATE RECEIVED: September 18, 1986
METHODS USED: EPA Methods 405.1; 160.2;
410.1; 200.7; and 150.1

SAMPLE : OUTFALL #002

BIOCHEMICAL OXYGEN DEMAND (5-day), mg/l = 24

TOTAL SUSPENDED SOLIDS, mg/l = 18

CHEMICAL OXYGEN DEMAND, mg/l = 8

TOTAL ZINC, mg/l = 0.002

TOTAL NICKEL, mg/l = 0.005

LAB pH, units = 7.00

See reverse side for "STANDARD CLAUSES".

ENGINEERING SURVEYS AND SERVICES
TESTING LABORATORY

1113 Fay Street
Columbia, Missouri 65201
Phone: (314) 449-2648

Date 23 April 1987

Lab No. 1618

Project: West Lake Landfill

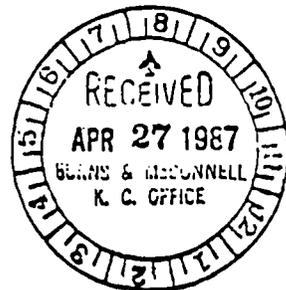
Location: Bridgeton, Missouri Date Received: 1 April 1987

Sample No./
Description: E/ Leachate sample secured from MSD manhole by Bill Canney

on April 1, 1987 @ 3:00PM.

TEST RESULTS

pH, units	8.0	Total Potassium, mg/l	38.66
Total Arsenic, mg/l	0.003	Total Selenium, mg/l	≤0.002
Total Barium, mg/l	0.65	Total Silver, mg/l	0.02
Total Boron, mg/l	0.46	Total Zinc, mg/l	0.05
Total Cadmium, mg/l	≤0.01	Chlorides, mg/l	3.0
Total Chromium, mg/l	≤0.01	Fluoride, mg/l	1.2
Total Copper, mg/l	≤0.01	Sulfate, mg/l	68
Total Lead, mg/l	≤0.05	Kjeldahl Nitrogen, mg/l	23.0
Total Mercury, mg/l	≤0.002	Ammonia Nitrogen, mg/l	21.0
Total Nickel, mg/l	0.03	Chemical Oxygen Demand, mg/l	52
Total Phosphorous, mg/l	0.95		



CC: 2 Canney
1 Robinson

ENGINEERING SURVEYS AND SERVICES
BY:

Bill Canney

TABLE C2. TRACE ELEMENT TOLERANCES FOR IRRIGATION WATER*

Element	*For continuous use - all soils	**For short term use - fine textured soils
	ppm	ppm
Aluminum	1.0	20.0
Arsenic	1.0	10.0
Beryllium	0.5	1.0
Boron	0.75	2.0
Cadmium	0.005	0.05
Chromium	5.0	20.0
Cobalt	0.2	10.0
Copper	0.2	5.0
Fluorine	***	***
Iron	***	***
Lead	5.0	20.0
Lithium	5.0	5.0
Manganese	2.0	20.0
Molybdenum	0.005	0.05
Nickel	0.5	2.0
Selenium	0.05	0.05
Tin	***	***
Tungsten	***	***
Vanadium	10.0	10.0
Zinc	5.0	10.0

*Water Quality Criteria - Report of National Technical Advisory Committee to Secretary of the Interior, 1968 (95)

*These tolerance levels were developed for western states, in which most or all of the crop water requirement is met by irrigation.

**Short term use refers to time periods as great as 20 years.

***No limits proposed.

ENGINEERING SURVEYS AND SERVICES
TESTING LABORATORY

1113 Fay Street
Columbia, Missouri 65201
Phone: (314) 449-2646

Date 24 June 1986

Lab No. 1416

Project: West Lake Landfill

Location: Bridgeton, Missouri Date Received: 22 May 1986

Sample No./
Description: E/ Pretreated Leachate Sample secured from Manhole on North

side of Old St. Charles Road

TEST RESULTS

Parameter

Biochemical Oxygen Demand,mg/l	52
Chemical Oxygen Demand,mg/l	90
Total Nickel,mg/l	0.04
Total Silver,mg/l	<0.01
Total Antimony,mg/l	<0.002
Total Barium,mg/l	0.24
Total Beryllium,mg/l	<0.10
Total Zinc,mg/l	0.02
Total Chromium,mg/l	<0.005
Total Arsenic,mg/l	0.003
Total Lead,mg/l	<0.02
Total Cadmium,mg/l	<0.005
Total Copper,mg/l	<0.01
Total Selenium,mg/l	<0.002
Total Mercury,mg/l	<0.002
pH,units	7.4

CC: 2 Canney
1 Robinson

ENGINEERING SURVEYS AND SERVICES
BY:

David A. Bennett

ENGINEERING SURVEYS AND SERVICES
TESTING LABORATORY

1113 Fay Street
Columbia, Missouri 65201

Phone: (314) 449-2646

Date 24 June 1986

Lab No. 1416

Project: West Lake Landfill

Location: Bridgeton, Missouri Date Received: 22 May 1986

Sample No. /

Description: E/ Pretreated Leachate Sample secured from Manhole on North
side of Old St. Charles Road

TEST RESULTS

Parameter

Biochemical Oxygen Demand,mg/l	52
Chemical Oxygen Demand,mg/l	90
Total Nickel,mg/l	0.04
Total Silver,mg/l	<0.01
Total Antimony,mg/l	<0.002
Total Barium,mg/l	0.24
Total Beryllium,mg/l	<0.10
Total Zinc,mg/l	0.02
Total Chromium,mg/l	<0.005
Total Arsenic,mg/l	0.003
Total Lead,mg/l	<0.02
Total Cadmium,mg/l	<0.005
Total Copper,mg/l	<0.01
Total Selenium,mg/l	<0.002
Total Mercury,mg/l	<0.002
pH,units	7.4

CC: 2 Canney
1 Robinson

ENGINEERING SURVEYS AND SERVICES

BY:



David A. Bennett

ENGINEERING SURVEYS AND SERVICES
TESTING LABORATORY

1113 Fay Street
Columbia, Missouri 65201
Phone: (314) 449-2646

Date 10 December 1986

Lab No. 1416

Project: West Lake Landfill

Location: Bridgeton, Missouri Date Received: See Below

Sample No./
Description: 2/NPDES #MO-0104612 - Outfall #002 Received 25 Nov. 1986

3/Plant #2 Received 28 Nov. 1986

4/Gray's Point Received 28 Nov. 1986

5/Neeley's Quarry Received 28 Nov. 1986

6/Barnhart Received 28 Nov. 1986

TEST RESULTS

<u>Parameter/Sample No.</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Biochemical Oxygen Demand,mg/l	<u><5</u>	-	-	-	-
Total Suspended Solids,mg/l	<u>2</u>	<u>6</u>	<u><1</u>	<u>2</u>	<u><1</u>
Chemical Oxygen Demand,mg/l	<u>18</u>	<u>6</u>	-	-	-
Total Nickel,mg/l	<u><0.01</u>	-	-	-	-
Total zinc,mg/l	<u>0.02</u>	-	-	-	-
pH Measurement,units	<u>7.3</u>	<u>7.5</u>	<u>7.6</u>	<u>7.6</u>	<u>7.6</u>
Oil & Grease,mg/l	-	<u>2.0</u>	-	-	-
Settleable Solids,m1/l	-	-	<u><0.1</u>	<u><0.1</u>	<u><0.1</u>
Flow, mgd	<u>1.1220</u>				

NOTE: Sample 2 secured by ES&S Laboratory

Sample 3, 4, 5, 6 secured by owner

2 Canney
1 Robinson

ENGINEERING SURVEYS AND SERVICES

BY:

David A. Bennett

David A. Bennett

ENGINEERING SURVEYS AND SERVICES

TESTING LABORATORY

1113 Fay Street
Columbia, Missouri 65201
Phone: (314) 449-2648

Date 31 December 1986

Lab No. 1416

Project: West Lake Landfill

Location: Bridgeton, Missouri

Date Received: 25 November 1986

Sample No. /

Description: E/ Pretreated Leachate Sample secured from MSD Manhole on

North side of Old St. Charles Road

F/ Leachate Sample secured prior to aerated lagoons

TEST RESULTS (EP Toxicity Procedure)

<u>Parameter/Sample No.</u>	<u>E</u>	<u>F</u>
Endrin,mg/1	≤0.0002	≤0.0002
Lindane,mg/1	≤0.004	≤0.004
Methoxychlor,mg/1	≤0.005	≤0.005
Toxaphene,mg/1	≤0.005	≤0.005
2,4-D,mg/1	≤0.100	≤0.100 ^r
2,4,5-TP Silvex,mg/1	≤0.010	≤0.010

CC:

ENGINEERING SURVEYS AND SERVICES
BY:

ENGINEERING SURVEYS AND SERVICES

TESTING LABORATORY

1113 Fay Street
Columbia, Missouri 65201

Phone: (314) 449-2648

Date 31 December 1986

Lab No. 1416

Project: West Lake Landfill

Location: Bridgeton, Missouri

Date Received: 25 November 1986

Sample No. /

Description: E/Pretreated Leachate Sample secured from MSD Manhole on

North side of Old St. Charles Road - AERATED ONLY -

F/Leachate Sample secured prior to aerated lagoons

FROM HOLDING TANKS (NO AERATION) OR TREATMENT

TEST RESULTS

<u>Parameter/Sample No.</u>	<u>E</u>	<u>F</u>
Biochemical Oxygen Demand,mg/l	18	11
Chemical Oxygen Demand,mg/l	71	49
Total Nickel,mg/l	<0.01	<0.01
Total Silver,mg/l	<0.01	<0.01
Total Antimony,mg/l	<0.002	<0.002
Total Barium,mg/l	0.70	0.60
Total Iron,mg/l	0.09	0.16
Total Beryllium,mg/l	<0.10	<0.10
Total Zinc,mg/l	0.04	0.04
Total Chromium,mg/l	<0.005	<0.005
Total Arsenic,mg/l	<0.002	<0.002
Total Lead,mg/l	<0.05	<0.05
Total Cadmium,mg/l	<0.005	<0.005
Total Copper,mg/l	<0.01	<0.01
Total Selenium,mg/l	<0.002	<0.002
Total Mercury,mg/l	<0.002	<0.002
pH, units	8.2	7.6

CC: 2 Canney
1 Robinson

ENGINEERING SURVEYS AND SERVICES

BY:

David A. Bennett

David A. Bennett, PE

Taken from PERMIT BOOK FOR

Instantaneous and 24-hour maximum allowable concentrations permitted by MSD are shown below compared with results of a grab sample of the treated leachate discharged to MSD in June, 1984.

	24-Hour Average (milligram/liter)	Instantaneous Maximum Allowable (milligram/liter)	West Lake Discharge to MSD (milligram/liter)
Antimony	0.5	1.5	<0.4
Arsenic	0.5	1.5	0.012
Barium	10.0	30.0	<0.4
Beryllium	10.0	30.0	<0.03
Cadmium	0.1	0.3	<0.03
Chromium (total)	5.0	15.0	<0.1
Copper	1.5	4.5	<0.1
Iron	15.0	45.0	0.2
Lead	0.2	0.6	<0.1
Mercury	0.03	0.09	0.0035
Nickel	2.0	6.0	<0.15
Selenium	0.2	0.6	0.009
Silver	0.5	1.5	<0.006
Zinc	3.0	9.0	<0.02
BOD	NL	300.0	30.0
COD	NL	NL	74.0
pH (units)	NL	5.5-10.5	10.1

Notes: Concentrations listed above are total substance (dissolved plus suspended).

NL = Not limited; NT = Not tested.

The above data indicates that the existing system is producing a discharge well within the quality standards established by MSD.

D. EXISTING GAS CONTROL SYSTEM

Currently gas collection and burning is done at a facility located on the east side of the existing landfill (see Drawing No. 1). This facility consists of two vacuum blowers and a gas burner. Gas is withdrawn from six existing gas collection wells located along the landfill perimeter in the

ENGINEERING SURVEYS AND SERVICES

TESTING LABORATORY

1113 Fay Street
Columbia, Missouri 65201

Phone: (314) 449-2648

Date 23 April 1987

Lab No. 1618

Project: West Lake Landfill

Location: Bridgeton, Missouri

Date Received: 1 April 1987

Sample No./

Description: E/ Leachate sample secured from MSD manhole by Bill Canney

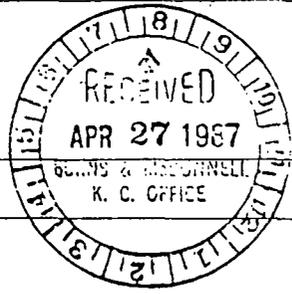
on April 1, 1987 @ 3:00PM.

*Sampled from MSD M.H. ...
analyzed by ...*

TEST RESULTS

pH, units	8.0	Total Potassium, mg/l	38.66
Total Arsenic, mg/l	0.003	Total Selenium, mg/l	≤0.002
Total Barium, mg/l	0.65	Total Silver, mg/l	0.02
Total Boron, mg/l	0.46	Total Zinc, mg/l	0.05
Total Cadmium, mg/l	≤0.01	Chlorides, mg/l	3.0
Total Chromium, mg/l	≤0.01	Fluoride, mg/l	1.2
Total Copper, mg/l	≤0.01	Sulfate, mg/l	68
Total Lead, mg/l	≤0.05	Kjeldahl Nitrogen, mg/l	23.0
Total Mercury, mg/l	≤0.002	Ammonia Nitrogen, mg/l	21.0
Total Nickel, mg/l	0.03	Chemical Oxygen Demand, mg/l	52
Total Phosphorous, mg/l	0.95		

~~Total Sulfate~~
SULFITE
SULFIDE



CC: 2 Canney
1 Robinson

ENGINEERING SURVEYS AND SERVICES
BY:

David A. Bennett
David A. Bennett, PE

ENGINEERING SURVEYS AND SERVICES

TESTING LABORATORY

1113 Fay Street
Columbia, Missouri 65201
Phone: (314) 449-2646

Date 23 April 1987

Lab No. 1618

Project: West Lake Landfill

Location: Bridgeton, Missouri

Date Received: 1 April 1987

Sample No./

Description: E/ Leachate sample secured from MSD manhole by Bill Canney

on April 1, 1987 @ 3:00PM.

TEST RESULTS

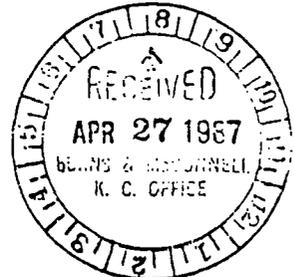
TC M-5-11

pH, units <i>7.6*</i>	8.0	Total Potassium, mg/l (<i>38.5</i>)	38.66
Total Arsenic, mg/l <i>< 1.0</i>	0.003	Total Selenium, mg/l <i>< 1.0</i>	≤ 0.002
Total Barium, mg/l (<i>900</i>)	0.65	Total Silver, mg/l (<i>2.3</i>)	0.02
<i>(3)</i> Total Boron, mg/l (<i>0.46</i>)	0.46	Total Zinc, mg/l	0.05
Total Cadmium, mg/l (<i>0.6</i>)	≤ 0.01	Chlorides, mg/l (<i>113</i>)	3.0
Total Chromium, mg/l (<i>4.7</i>)	≤ 0.01	Fluoride, mg/l (<i>0.84</i>)	1.2
Total Copper, mg/l (<i>26.5</i>)	≤ 0.01	Sulfate, mg/l (<i>23</i>)	68
Total Lead, mg/l <i>13.9</i>	≤ 0.05	Kjeldahl Nitrogen, mg/l (<i>1.0</i>)	23.0
Total Mercury, mg/l	≤ 0.002	Ammonia Nitrogen, mg/l (<i>2</i>)	21.0
Total Nickel, mg/l <i>24.9</i>	0.03	Chemical Oxygen Demand, mg/l (<i>177</i>)	52
Total Phosphorous, mg/l (<i>0.40</i>)	0.95		

SULFATE - 23 mg/l

SULFIDE (20.8) mg/l

SENT TO ENVIRONMENTAL PAC 6/11/87



CC: 2 Canney
1 Robinson

ENGINEERING SURVEYS AND SERVICES
BY:

David A. Bennett

David A. Bennett, PE

TABLE C2. TRACE ELEMENT TOLERANCES FOR IRRIGATION WATER*

Element	*For continuous use - all soils	**For short term use - fine textured soils
	ppm	ppm
Aluminum	1.0	20.0
Arsenic	1.0	10.0
Beryllium	0.5	1.0
Boron	0.75	2.0
Cadmium	0.005	0.05
Chromium	5.0	20.0
Cobalt	0.2	10.0
Copper	0.2	5.0
Fluorine	***	***
Iron	***	***
Lead	5.0	20.0
Lithium	5.0	5.0
Manganese	2.0	20.0
Molybdenum	0.005	0.05
Nickel	0.5	2.0
Selenium	0.05	0.05
Tin	***	***
Tungsten	***	***
Vanadium	10.0	10.0
Zinc	5.0	10.0

*Water Quality Criteria - Report of National Technical Advisory Committee to Secretary of the Interior. 1968 (95)

*These tolerance levels were developed for western states, in which most or all of the crop water requirement is met by irrigation.

**Short term use refers to time periods as great as 20 years.

***No limits proposed.

West Lake Landfill
13570 St. Charles Rock Road
St. Louis, MO

June 23, 1987

Sample Designation: Sample #1
Client Number: 4060-001
Sample I.D.#: 4060-001-1001

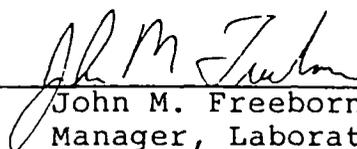
Collected By: Client
Date Received: 6/11/87
Page One of One

ANALYTICAL REPORT

PARAMETER	RESULTS	UNITS
BOD	56.7	mg/l
COD	177	mg/l
SULFATES	23	mg/l
SULFIDES	20.8	mg/l
pH	7.6	
CHLORIDES	113	mg/l
FLUORIDES	.86	mg/l
% NITROGEN	10	mg/l
AMMONIA	2	mg/l
PHOSPHORUS	.40	mg/l
BORON	3	mg/l
BARIUM	900	ug/l
CADMIUM	1.6	ug/l
CHROMIUM	4.7	ug/l
COPPER	26.5	ug/l
LEAD	13.0	ug/l
NICKEL	24.9	ug/l
POTASSIUM	39.5	mg/l
SELENIUM	< 10	ug/l
SILVER	2.3	ug/l
ZINC	33	ug/l
ARSENIC	< 10	ug/l

Analyses performed in accordance with E.P.A., A.S.T.M., Standard Methods or other approved methods.

If you have any questions, please call.



John M. Freeborn
Manager, Laboratory Services
Envirofact, Inc.

West Lake Landfill
13570 St. Charles Rock Road
St. Louis, MO

June 23, 1987

Sample Designation: Sample #2
Client Number: 4060-001
Sample I.D.#: 4060-001-1002

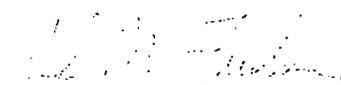
Collected By: Client
Date Received: 6/11/87
Page One of One

ANALYTICAL REPORT

<u>PARAMETER</u>	<u>RESULTS</u>	<u>UNITS</u>
BOD	86.1	mg/l
COD	397	mg/l
SULFATES	29	mg/l
SULFIDES	23.2	mg/l
pH	6.5	

Analyses performed in accordance with E.P.A., A.S.T.M., Standard Methods or other approved methods.

If you have any questions, please call.



John M. Freeborn
Manager, Laboratory Services
Envirofact, Inc.

West Lake Landfill
13570 St. Charles Rock Road
St. Louis, MO

June 23, 1987

Sample Designation: Sample #3
Client Number: 4060-001
Sample I.D.#: 4060-001-1003

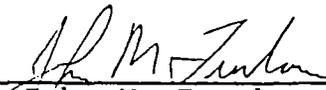
Collected By: Client
Date Received: 6/11/87
Page One of One

ANALYTICAL REPORT

<u>PARAMETER</u>	<u>RESULTS</u>	<u>UNITS</u>
BOD	170	mg/l
COD	420	mg/l
SULFATES	12	mg/l
SULFIDES	29.3	mg/l
pH	7.4	

Analyses performed in accordance with E.P.A., A.S.T.M., Standard Methods or other approved methods.

If you have any questions, please call.



John M. Freeborn
Manager, Laboratory Services
Enviropact, Inc.

FRANK
John FREEBORN
423-7337

CHAIN OF CUSTODY
WORK ORDER FORM

Client Name: West Lake Landfill Telephone: 739-1122 Purchase Order#: 801446 Client#: _____
Address: 13570 St. Charles Rock Send/Attention Of: _____ Project#: _____
Comments/Special Instructions: _____

Report Copies To: Lab Manager
QC Manager

TAKEN 131
P.E.
12:30 P.M.

Sample #	Sample Location/Designation	Parameters	Collected By	Date Sampled
<u>1001</u>	<u>Sample #1</u>	<u>See List</u>	<u>Client</u>	<u>6-11-89</u>
<u>1002</u>	<u>Sample #2</u>	<u>See List</u>	<u>/</u>	<u>/</u>
<u>1003</u>	<u>Sample #3</u>	<u>See List</u>	<u>/</u>	<u>/</u>

Verbal Results Requested: Yes / No Contact: _____ Telephone: _____
Verbal Results Communicated By: _____ Date: _____ Time: _____
Delivered to Lab By (Signature): Bill Cannon Print Name: _____ Date: 6-11-89
Accepted In Lab By (Signature): Scott George Print Name: Scott George Log#: _____

6/19/87
- ENVIRPACT LAB. -

- VIA TELEPHONE -

→ DISCHARGE TO A-S-D. AFTER ADDITION - TAKEN FROM
MANHOLE WATER
#1 - A-S-D - MANHOLE

P.H. - 7.6

B-O-D-57 - (C-O-D-177)

Sulphate - 23

Sulphides - 20.8

→ TAKEN SOUTH L.F. COLLECTION WELL

#2 - SOUTH COLLECTION WELL

P.H. 6.5

B-O-D-81

C-O-D-397

Sulphides - 23.2

Sulphates - 29.6

#3 FROM HOLDING LAGOON

P.H. - 7.4

B-O-D-170

C-O-D-420

Sulphates - 12 ✓

Sulphides - 29.3

Burns & McDonnell
ENGINEERS - ARCHITECTS - CONSULTANTS

August 27, 1987

Mr. William Canney
West Lake Landfill, Inc.
13570 St. Charles Rock Road
Bridgeton MO 63044

West Lake Sanitary Landfill
Leachate Analysis
Project No. 84-075-1-001

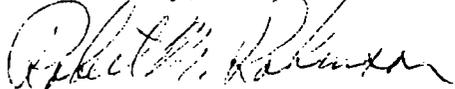
Dear Mr. Canney:

Now that the large leachate holding pond has apparently been stabilized with the aerators, I suggest that West Lake sample the discharge from the large pond being discharged to MSD. We recommend that a sample of the discharge to MSD be analyzed for the following parameters:

BOD	Arsenic
COD	Barium
pH	Cadmium
Sulfates	Chromium
Sulfides	Copper
Ammonia	Iron
Nitrates	Lead
Total Kieldahl Nitrogen	Mercury
	Nickel
	Zinc

If you have any questions, please advise. I see from my file that you had Enviropact, Inc. provide the analysis in June 1987. The limits that they used in June look very satisfactory. If their analysis rate was reasonable, I would suggest that you obtain sample bottles from Enviropact and deliver the samples to them for analysis.

Sincerely,



Robert M. Robinson, P.E.
Project Manager

RMR/gph

100% EMPLOYEE-OWNED

Mr. Bill Canney
West Lake Landfill
13570 St. Charles Rock Road
St. Louis, MO 63044

October 9, 1987

Sample Designation: Manhole
Client #: 4060-002
Sample I.D.#: 4060-002-1001

Collected By: Client
Date Received: 9-14-87
Page One of One

ANALYTICAL REPORT

PARAMETER	RESULTS	UNITS
BOD	99 ✓	mg/L
COD	148 ✓	mg/L
pH	7.3 ✓	
SULFATES	< 0.05	mg/L
SULFIDES	< 73.3	mg/L
AMMONIA	5.2	mg/L
NITRATES	1.2	mg/L
TOTAL KIELDAHL NITROGEN	24	mg/L
TOTAL METALS		
ARSENIC	< 0.01 ✓	mg/L
BARIUM	0.3 ✓	mg/L
CADMIUM	< 0.01 ✓	mg/L
CHROMIUM	0.005 ✓	mg/L
COPPER	< 0.005 ✓	mg/L
IRON	< 0.14 ✓	mg/L
LEAD	0.03 ✓	mg/L
MERCURY	4.7 ✓ (0.004)	ug/L
NICKEL	< 0.01 ✓	mg/L
ZINC	< 0.02 ✓	mg/L

Analysis performed in accordance with E.P.A., Standard Methods or other approved methods.

If you have any further questions, please call.



John M. Freeborn
Manager, Laboratory Services
Envirofact, Inc.

FROM - WEST LAKE LANDFILL
12976 - ST. CHARLES ROCK RD.
BRIDGETON, MO. 63044
BILL CANNERY - 344-9112

SAMPLE - DISCHARGE INTO M-S-D
SYSTEM - FROM
MANHOLE.

DATE SAMPLE TAKEN 9/14/87 - 1:00 P.M.
REDUCED TO LAB 9/14/87 - 1:30 P.M.
1 1/2 HR.

ANALYZE FOR

BOD

COD

PH

SULFATES

SULFIDES

AMMONIA

NITRATES

TOTAL KJELDAHL NITROGEN

ARSENIC

BARIUM

CADMIUM

CHROMIUM

COPPER

IRON

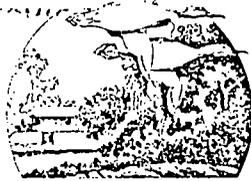
LEAD

MERCURY

NICKEL

ZINC

P. C. # 8C/614



ENVIROPACT

Mr. Bill Canney
West Lake Landfill
13570 St. Charles Rock Road
St. Louis, MO 63044

January 6, 1988

Sample Designation: * See Note
Client Number: 4060
Sample I.D. Number: 4060-004-1001

Collected By: Client
Date Received: 12-17-87
Page One of Two

ANALYTICAL REPORT

PARAMETER	RESULTS	UNITS
pH	7.3	
BIOLOGICAL OXYGEN DEMAND	40	mg/l
CHEMICAL OXYGEN DEMAND	85	mg/l
TOTAL METALS		
ANTIMONY	< 0.1	mg/l
ARSENIC	< 0.005	mg/l
BARIUM	0.27	mg/l
BERYLLIUM	< 0.01	mg/l
CADMIUM	< 0.005	mg/l
CHROMIUM	< 0.005	mg/l
COPPER	< 0.005	mg/l
LEAD	< 0.005	mg/l
MERCURY	< 0.001	mg/l
NICKEL	< 0.01	mg/l
SELENIUM	< 0.005	mg/l
SILVER	< 0.005	mg/l
ZINC	0.04	mg/l
IRON	5.1	mg/l

Mr. Bill Canney
West Lake Landfill
Sample I.D. Number: 4080-004-1001
Page Two of Two

ANALYTICAL REPORT (CONT.)

PARAMETER	RESULTS	UNITS
PRIMARY ORGANICS		
ENDRIN	< 0.005	ug/l
LINDANE	< 0.001	ug/l
METHOXYCHLOR	< 0.1	ug/l
TOXAPHENE	< 0.1	ug/l
2,4 - D	0.1	ug/l
2,4,5 - TP	< 0.02	ug/l

Resonate From Holding Lagoon. Taken From NSD Manhole (Composites)

Analysis performed in accordance with E.P.A. Standard Methods or other approved methods.

If you have any further questions, please call.



John M. Freaburn
Laboratory Manager
Enviroscan, Inc.

TESTING LABORATORY

1113 Fay Street
Columbia, Missouri 65201

Phone: (314) 449-2648

Date 19 July 1988

Lab No. 1864

Project: West Lake Landfill

Location: Bridgeton, Missouri Date Received: 1 June 1988

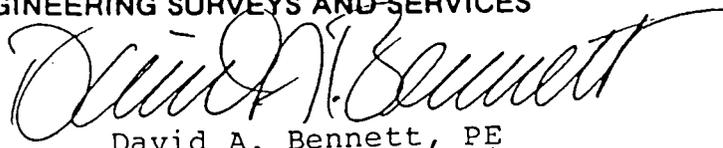
Sample No./
Description: D/ Composite Leachate Water Sample**TEST RESULTS**Parameter

TEP Arsenic, mg/l	≤0.005
TEP Barium, mg/l	0.51
TEP Cadmium, mg/l	≤0.01
TEP Mercury, mg/l	≤0.0005
TEP Lead, mg/l	≤0.05
TEP Selenium, mg/l	≤0.005
TEP Silver, mg/l	≤0.05
TEP Chromium, mg/l	≤0.02
Endrin, mg/l	0.004
Lindane, mg/l	0.141
Methoxychlor, mg/l	0.121
Toxaphene, mg/l	≤0.008
2,4 - D, mg/l	≤0.0003
2,4,5-TP Silvex, mg/l	0.00014

CC: 2 Canney
1 Robinson

ENGINEERING SURVEYS AND SERVICES

BY:



David A. Bennett, PE

ENGINEERING SURVEYS AND SERVICES
TESTING LABORATORY

1113 Fay Street
Columbia, Missouri 65201
Phone: (314) 449-2648

Date 19 July 1988

Lab No. 1864

Project: West Lake Landfill

Location: Bridgeton, Missouri Date Received: 1 June 1988

Sample No./
Description: E/ Pretreated Leachate Water Sample

TEST RESULTS

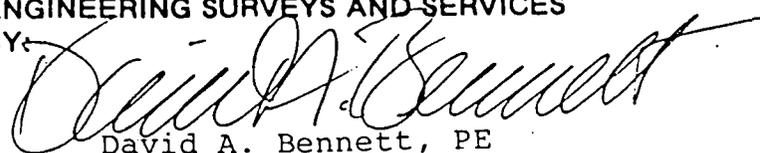
Parameter

Biochemical Oxygen Demand, mg/l	≤5
Chemical Oxygen Demand, mg/l	38
pH, units	7.9
Total Antimony, mg/l	≤0.04
Total Arsenic, mg/l	0.003
Total Barium, mg/l	0.45
Total Beryllium, mg/l	≤0.002
Total Cadmium, mg/l	≤0.01
Total Chromium, mg/l	≤0.01
Total Copper, mg/l	≤0.01
Total Lead, mg/l	≤0.05
Total Mercury, mg/l	≤0.002
Total Nickel, mg/l	≤0.02
Total Selenium, mg/l	≤0.002
Total Silver, mg/l	≤0.01
Total Zinc, mg/l	0.04
Total Iron, mg/l	1.21
Endrin, mg/l	0.002
Lindane, mg/l	≤0.002
Methoxychlor, mg/l	0.079
Toxaphene, mg/l	≤0.008
2,4 - D, mg/l	≤0.0003
2,4,5-TP Silvex, mg/l	0.00046

CC: 2 Canney
1 Robinson

ENGINEERING SURVEYS AND SERVICES

BY:


David A. Bennett, PE

ENGINEERING SURVEYS AND SERVICES
TESTING LABORATORY

1113 Fay Street
Columbia, Missouri 65201
Phone: (314) 449-2648

Date 19 July 1988

Lab No. 1864

Project: West Lake Landfill

Location: Bridgeton, Missouri Date Received: 1 June 1988

Sample No./

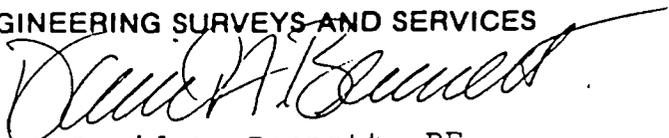
Description: G/ Pretreated Leachate For Irrigation

TEST RESULTS

Parameter

Total Aluminum, mg/l	≤0.03
Total Arsenic, mg/l	0.003
Total Beryllium, mg/l	≤0.002
Total Boron, mg/l	0.49
Total Cadmium, mg/l	≤0.01
Total Chromium, mg/l	≤0.01
Total Cobalt, mg/l	≤0.01
Total Copper, mg/l	≤0.01
Total Iron, mg/l	1.21
Total Lead, mg/l	≤0.05
Total Lithium, mg/l	≤0.05
Total Manganese, mg/l	0.57
Total Molybdenum, mg/l	≤0.2
Total Nickel, mg/l	≤0.02
Total Selenium, mg/l	≤0.002
Total Vanadium, mg/l	≤0.006
Total Zinc, mg/l	0.04
Flouride, mg/l	≤0.1

CC: 2 Canney
1 Robinson

ENGINEERING SURVEYS AND SERVICES
BY: 

David A. Bennett, PE

Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>LIDLAW WASTE SYSTEMS, INC</u>	Bottle	Preservative	Tests Requested
Address	<u>WEST LAKE LANDFILL</u>	<u>1 qt. pbs</u>	<u>Cool to 4°C</u>	<u>BOD, pH</u>
	<u>P.O. Box 1162</u>	<u>1/2 pt. pbs</u>	<u>1/2 SA, Cool to 4°C</u>	<u>COB</u>
	<u>SOUTH ROXANA, IL 62087</u>	<u>1 qt. pbs</u>	<u>HNO3</u>	<u>AS, BA, CD, CP, CU, FE, PB, Hg, NI, SE, Z</u>
Contact	<u>MR. MIKE WHITLOCK</u>			
Telephone	<u>(314) 739-1919</u>			
Sample Identification	<u>LEACHATE</u>			
Date/Time Collected	<u>8/31/88 1047</u>			
Sample Type	<u>LEACHATE</u>			
Collected By (Signature)	<u>[Signature]</u>		Total Bottles	

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 922129
 Sample Received By (signature) [Signature] Date/Time 8/31/88 1235

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
BOD	<u>[Signature]</u>	<u>8-31-88 1425</u>			
pH	<u>[Signature]</u>	<u>8-31-88 1315</u>			
COB	<u>[Signature]</u>	<u>9-16-88/1000</u>			
AS	<u>[Signature]</u>	<u>9-13-88/1935</u>			
SE	<u>[Signature]</u>	<u>9-16-88/1030</u>			
Pb	<u>[Signature]</u>	<u>9-9-88/1045</u>			
Ba Cd	<u>[Signature]</u>	<u>9-7-88 1120</u>			
Cr	<u>[Signature]</u>	<u>9-6-88 1315</u>			
Cu, Ni, Zn	<u>[Signature]</u>	<u>9-7-88 1355</u>			
Fe	<u>[Signature]</u>	<u>9-2-88 1520</u>			
Hg	<u>[Signature]</u>	<u>9-9-88 1145</u>			

REPORT OF ANALYSIS

Lab #1: Report No. 31310 Date: 9-19-88 Signature: [Signature]
 Title: _____
 Lab #2: Report No. _____ Date: _____ Signature: _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



October 6, 1988

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from West Lake Landfill. This report is for the sample collected in August, 1988. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted

A handwritten signature in cursive script that reads "Chris L. Segafredo".

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber



FIELD LOG
and
Analysis Request *

Facility LADLAN - West LAKE Laboratory Environmental Analysis, Inc.
Address _____ Address 3278 N. Lindbergh
Florissant, MO 63033
Contact Person Mike Whitlock Sample Collection Collected & Shipped
Telephone _____ Telephone (314) 921-4488
Date August 31, 1988 Time 10:47 am
Sampling Point Leachate manhole

Sample Number _____
Field Measurements Flow 1,384,400 gallons
Sample Temperature _____ pH _____ Specific Conductance _____ umhos/cm.
Sample Appearance _____
Sample Notes _____

REQUESTED ANALYSIS

(Check Parameters requiring analysis; insert a number where replicate testing is needed)

<input type="checkbox"/> Alkalinity	<input type="checkbox"/> Fluorides	<input type="checkbox"/> Sodium
<input type="checkbox"/> Ammonia	<input type="checkbox"/> Iron	<input type="checkbox"/> Specific Conductance
<input type="checkbox"/> Antimony	<input type="checkbox"/> Lead	<input type="checkbox"/> Sulfates
<input type="checkbox"/> Arsenic	<input type="checkbox"/> Magnesium	<input type="checkbox"/> Thallium
<input type="checkbox"/> Beryllium	<input type="checkbox"/> Manganese	<input type="checkbox"/> Total Dissolved Solids
<input type="checkbox"/> B.O.D. (5-day)	<input type="checkbox"/> Mercury	<input type="checkbox"/> Total Organic Carbon
<input type="checkbox"/> Cadmium	<input type="checkbox"/> Nickel	<input type="checkbox"/> Total Organic Halogen
<input type="checkbox"/> Calcium	<input type="checkbox"/> Nitrates	<input type="checkbox"/> Total Solids
<input type="checkbox"/> Chlorides	<input type="checkbox"/> Oil & Grease	<input type="checkbox"/> Total Suspended Solids
<input type="checkbox"/> Chromium (Total)	<input type="checkbox"/> pH	<input type="checkbox"/> Zinc
<input type="checkbox"/> Chromium (Hex.)	<input type="checkbox"/> Phenols	_____
<input type="checkbox"/> C.O.D.	<input type="checkbox"/> Phosphates	_____
<input type="checkbox"/> Copper	<input type="checkbox"/> Potassium	_____
<input type="checkbox"/> Cyanide	<input type="checkbox"/> Selenium	_____
<input type="checkbox"/> Fecal Coliform	<input type="checkbox"/> Silver	_____

Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



MR. MIKE WHITLOCK
LAIDLAW WASTE SYSTEM
WEST LAKE LANDFILL
P.O. BOX 1162
SOUTH ROXANA IL 62087

PAGE NO : 1
REPORT NO : 31561
DATE : 10/10/88
P.O. No. :

REPORT OF ANALYSIS

SUBJECT : Analysis of waste samples in accordance with SW-84
6: Test Methods for Evaluating Solid Waste - Physi-
cal/Chemical Methods, 1982; where applicable.

LOG NUMBER
924613

SAMPLE DESCRIPTION
LEACHATE 9/20

RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


R. M. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



LIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 31561
DATE : 10/10/88

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
924613	LEACHATE 9/20	Arsenic	<0.005	mg As/l
		Barium	2.60	mg Ba/l
		B.O.D. (5-day)	12.3	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	62.8	mg/l
		Chromium	0.006	mg Cr/l
		Copper	0.020	mg Cu/l
		Iron	0.65	mg Fe/l
		Mercury	0.0005	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead	<0.005	mg Pb/l
		pH Value	7.75	pH Unit
		Selenium	<0.005	mg Se/l
		Supervisory Charges	3	man-hrs
		Technician Charges	3	man-hrs
		Zinc	<0.005	mg Zn/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>Laydon West Lake</u>	Bottle	<u>pt pl</u>	Preservative	<u>HNO3</u>	Tests Requested	<u>metals</u>
Address			<u>1/2 pt pl</u>		<u>H2SO4</u>		<u>CO2</u>
			<u>qt pl</u>		<u>none</u>		<u>BOD, pH</u>
Contact	<u>MIKE WHITLOCK WHITLOCK</u>						
Telephone	<u>()</u>						
Sample Identification	<u>leachate</u>						
Date/Time Collected	<u>9-20-88/1333</u>						
Sample Type	<u>leachate</u>						
Collected By (Signature)	<u>[Signature]</u>	<u>3</u>		Total Bottles			

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 924613
 Sample Received By (signature) [Signature] Date/Time 9-20-88/1500

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
<u>pH</u>	<u>[Signature]</u>	<u>9-20-88/1500</u>	<u>Ba</u>	<u>[Signature]</u>	<u>9-28-88/1200</u>
<u>Cu, Zn</u>	<u>[Signature]</u>	<u>9-21-88/1500</u>	<u>Fe</u>	<u>[Signature]</u>	<u>10-6-88/1030</u>
<u>Fe</u>	<u>[Signature]</u>	<u>9-22-88/1200</u>	<u>CO2</u>	<u>[Signature]</u>	<u>9-27-88/1130</u>
<u>As</u>	<u>[Signature]</u>	<u>9-22-88/1445</u>			
<u>Pb</u>	<u>[Signature]</u>	<u>9-23-88/1020</u>			
<u>BOD</u>	<u>T.W. Wain</u>	<u>9-21-88/1518 to 9-26-88/0825</u>			
<u>Ni, Cr, Cd</u>	<u>[Signature]</u>	<u>9-26-88/1300</u>			
<u>Se</u>	<u>[Signature]</u>	<u>9-27-88/925</u>			

Lab #2 - _____ Laboratory Log Number _____
 Sample Received By (signature) _____ Date/Time _____

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed

REPORT OF ANALYSIS

Lab #1: Report No. 31561 Date: 10/10/88 Signature: [Signature]
 Title: _____
 Lab #2: Report No. _____ Date: _____ Signature: _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



October 18, 1988

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

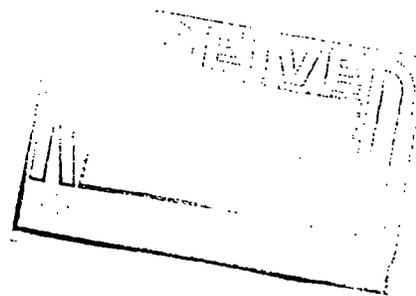
The enclosed laboratory report represents the analysis of treated leachate from West Lake Landfill. This report is for the sample collected in September, 1988. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted

Chris L. Segaffredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488

October 19, 1988



Mr. Ronald Darling
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

Dear Mr. Darling,

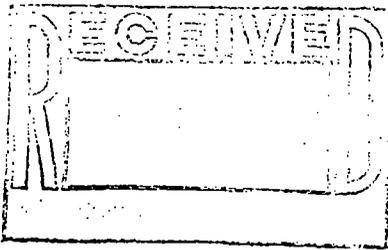
The following measurements were made on the leachate sumps at West Lake Sanitary Landfill on September 23, 1988.

<u>SUMP DESIGNATION</u>	<u>DEPTH OF LIQUID, FT</u>
K 100	3.08
K 123	26.09
K 124	15.67
K 128	13.83

If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,

Chris L. Segafredo
Project Manager



CLS/jr



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



MR. MIKE WHITLOCK
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
P.O. BOX 1162
SOUTH ROXANA IL 62087

PAGE NO : 1
REPORT NO : 31985
DATE : 11/10/88
P.O. No. :

REPORT OF ANALYSIS

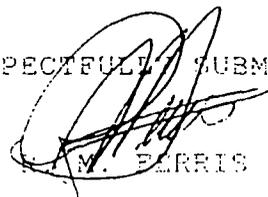
SUBJECT : Analysis of waste samples in accordance with SW-84
6: Test Methods for Evaluating Solid Waste - Physi-
cal/Chemical Methods, 1982; where applicable.

LOG NUMBER
928222

SAMPLE DESCRIPTION
TREAT LEACH 10/28 C

RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


M. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



EAI

LIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 31385
DATE : 11/10/88

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
923228	TREAT LEACH 10/28 c	Arsenic	<0.005	mg As/l
		Barium	2.94	mg Ba/l
		B.O.D. (5-day)	9.1	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	64.8	mg/l
		Chromium	0.005	mg Cr/l
		Copper	0.010	mg Cu/l
		Iron	0.47	mg Fe/l
		Mercury	0.0003	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead	<0.005	mg Pb/l
		pH Value	7.68	pH Unit
		Selenium	<0.005	mg Se/l
		Technician Charges	3	man-hrs
		Zinc	0.010	mg Zn/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488

November 14, 1988



Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from West Lake Landfill. This report is for the sample collected in October, 1988. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>Laidlaw Waste Systems</u>	Bottle	Preservative	Tests Requested
Address	<u>Westlake Landfill</u>	<u>1/2 Pt. Plast.</u>	<u>H2SO4, Cool</u>	<u>COD</u>
	<u>P. O. Box 1162</u>	<u>Qt. Plast.</u>	<u>Cool</u>	<u>BOD, pH</u>
	<u>S. Roxana, IL 62087</u>	<u>Pt. Plast.</u>	<u>HNO3</u>	<u>As, Ba, Cd, Cr, Cu, Fe</u>
				<u>Pb, Hg, Ni, Se, Zn</u>
Contact	<u>Mr. Mike Whitlock</u>			
Telephone	<u>(314) 739-1919</u>			
Sample Identification	<u>treated leachate 10/28</u>			
Date/Time Collected	<u>10-28-88 / 10:50</u>			
Sample Type	<u>Treated Leachate</u>			
Collected By (Signature)	<u>Jeff Carr</u>	<u>3</u>	Total Bottles	

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc.	Laboratory Log Number	<u>928228</u>			
Sample Received By (signature)	Date/Time	<u>10-28-88 / 11:30</u>			
Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
<u>pH</u>	<u>J. Esoto</u>	<u>10/28 400</u>			
<u>As</u>	<u>B. Parnell</u>	<u>11-1 1300</u>			
<u>Cu, Zn</u>	<u>B. Parnell</u>	<u>10-31 1000</u>			
<u>BOD</u>	<u>T. Whitlock</u>	<u>10-28-88 / 10:50</u>			
<u>Ba, Ni, Cd</u>	<u>B. Parnell</u>	<u>11-2 1300</u>			
<u>Cr</u>	<u>B. Parnell</u>	<u>11-3 1130</u>			
<u>Se</u>	<u>J. Esoto</u>	<u>11-4 1300</u>			
<u>Fe</u>	<u>B. Parnell</u>	<u>11-4 1420</u>			
<u>As</u>	<u>J. Esoto</u>	<u>11-8 1015</u>			
<u>Pb</u>	<u>J. Esoto</u>	<u>11-9 1030</u>			
<u>COD</u>	<u>J. Esoto</u>	<u>11-3-88 1115</u>			

REPORT OF ANALYSIS

Lab #1: Report No. 31985 Date: 11/10/88 Signature: [Signature]
 Title: _____
 Lab #2: Report No. _____ Date: _____ Signature: _____



FIELD DATA LOG SHEET

CLIENT INFORMATION

Name: Laidlaw - West Lake
Address: _____
Telephone: _____
Contact Person: Mike Whitlock

FIELD INFORMATION

Sample Collection Personnel: Jeff Carr
Date: 10-28-88 Time: 1050
Ambient Air Temperature: _____ Weather Conditions: _____
Sampling Point: treated leachate source
Log Number: _____

FIELD MEASUREMENTS

Dissolved Oxygen: _____ Specific Conductance: _____
Sample Temperature: 51°F pH: _____
Sample Appearance: clear, pale yellow, odorless
Sample Notes: _____
Additional Remarks: meter reading 000059 gal

Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. Florissant, MO 63033 · 314-921-4488

October 19, 1988



Mr. Ronald Darling
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

Dear Mr. Darling,

The following measurements were made on the leachate sumps at West Lake Sanitary Landfill on October 11, 1988.

SUMP DESIGNATION

DEPTH OF LIQUID, FT

K 100	0.16
K 123	28.17
K 124	23.34
K 128	13.83

If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,

Chris L. Segafredo
Project Manager

CLS/jr



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



MR. MIKE WHITLOCK
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
P.O. BOX 1162
SOUTH ROXANA IL 62087

PAGE NO : 1
REPORT NO : 32079
DATE : 11/16/88
P.O. No. :

REPORT OF ANALYSIS

SUBJECT : Analysis of waste samples in accordance with SW-84
6: Test Methods for Evaluating Solid Waste - Physi-
cal/Chemical Methods, 1982; where applicable.

LOG NUMBER
929130

SAMPLE DESCRIPTION
LEACHATE 11/8/88 C

A/P INVOICE AUDIT
✓ TOTALS _____
✓ P.D. AMOUNT _____
✓ P.D. SIGNATURE _____
✓ DATE REC'D. _____
✓ _____
✓ _____

RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


R. M. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



LIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 32079
DATE : 11/16/88

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
929130	LEACHATE 11/8/88 c	Arsenic	<0.005	mg As/l
		Barium	2.88	mg Ba/l
		B.O.D. (5-day)	12.0	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	63.3	mg/l
		Chromium	0.009	mg Cr/l
		Copper	0.011	mg Cu/l
		Iron	0.69	mg Fe/l
		Mercury	<0.0002	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead	<0.005	mg Pb/l
		pH Value	7.88	pH Unit
		Selenium	<0.005	mg Se/l
		Supervisory Charges	3	man-hrs
		Technician Charges	3	man-hrs
		Zinc	0.007	mg Zn/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>Laidlaw Waste Systems</u>	Bottle	Preservative	Tests Requested
Address	<u>Westlake Landfill</u>	<u>1/2 Pt. Plast.</u>	<u>H2SO4, Cool</u>	<u>COD</u>
	<u>P. O. Box 1162</u>	<u>Qt. Plast.</u>	<u>Cool</u>	<u>BOD, pH</u>
	<u>S. Roxana, IL 62087</u>	<u>Pt. Plast.</u>	<u>HNO3</u>	<u>As, Ba, Cd, Cr, Cu, Fe</u>
Contact	<u>Mr. Mike Whitlock</u>			<u>Pb, Hg, Ni, Se, Zn</u>
Telephone	<u>(314) 739-1919</u>			
Sample Identification	<u>Treated Leachate</u>			
Date/Time Collected	<u>11/8/88 1423</u>			
Sample Type	<u>Treated Leachate</u>			
Collected By (Signature)	<u>Shahid Ahmed</u>	<u>3</u>	Total Bottles	

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 929130
 Sample Received By (signature) Shahid Ahmed Date/Time 11/8/88 1609

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
<u>Cr</u>	<u>Be Pandey</u>	<u>11-9 1300</u>			
<u>pH</u>	<u>Be Pandey</u>	<u>11-8 345</u>			
<u>Cd, Cu, Zn</u>	<u>Be Pandey</u>	<u>11-10 1300</u>			
<u>Fe</u>	<u>Be Pandey</u>	<u>11-11 1300</u>			
<u>As, BOD</u>	<u>Be Pandey</u>	<u>11-9-88 1300</u>			
<u>Hg</u>	<u>Be Pandey</u>	<u>11-14 1030</u>			
<u>Ni</u>	<u>Be Pandey</u>	<u>11-11 1145</u>			
<u>Fe, Ni</u>	<u>Be Pandey</u>	<u>11-15 1300</u>			
<u>As</u>	<u>Be Pandey</u>	<u>11-14 1030</u>			
<u>Pb</u>	<u>Be Pandey</u>	<u>11-11-945</u>			
<u>Se</u>	<u>Be Pandey</u>	<u>11-16 1030</u>			

REPORT OF ANALYSIS

Lab #1: Report No. 32079 Date: 11/16/88 Signature: [Signature]
 Title: _____
 Lab #2: Report No. _____ Date: _____ Signature: _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



November 14, 1988

Mr. Ronald Darling
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

Dear Mr. Darling,

The following measurements were made on the leachate sumps at West Lake Sanitary Landfill on November 8, 1988.

<u>SUMP DESIGNATION</u>	<u>DEPTH OF LIQUID, FT</u>
K 100	6.33
K 123	22.28
K 124	20.59
K 128	13.87

If you have any questions, please call me at (314) 921-4488.

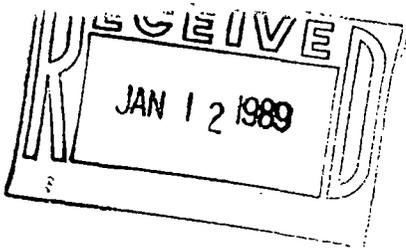
Respectfully submitted,

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock (Laidlaw)
Scott Schreiber (Laidlaw)





Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



MR. MIKE WHITLOCK
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
P.O. BOX 1162
SOUTH ROXANA IL 62087

PAGE NO : 1
REPORT NO : 32637
DATE : 12/30/88
P.O. No. :

REPORT OF ANALYSIS

SUBJECT : Analysis of water and/or wastewater samples in accordance with Standard Methods for the Examination of Water and Wastewater, 16th Edition, 1985.

LOG NUMBER
1002733

SAMPLE DESCRIPTION
TR. LEACHATE 12/16 C

RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED

R. M. Ferris
R. M. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



LAIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 32637
DATE : 12/30/88

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1002733	TR. LEACHATE 12/16 c	Arsenic	<0.005	mg As/l
		Barium	<0.50	mg Ba/l
		B.O.D. (5-day)	6.5	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	50.2	mg/l
		Chromium	<0.005	mg Cr/l
		Copper	<0.005	mg Cu/l
		Iron	0.35	mg Fe/l
		Mercury	<0.0002	mg Hg/l
		Nickel	0.10	mg Ni/l
		Lead	<0.005	mg Pb/l
		pH Value	8.01	pH Unit
		Selenium	<0.005	mg Se/l
		Technician Charges	3	man-hrs
		Zinc	0.010	mg Zn/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



MR. MIKE WHITLOCK
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

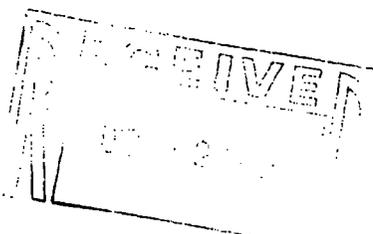
PAGE NO : 1
REPORT NO : 36915
DATE : 12/12/89
P.O. No. : 188071

REPORT OF ANALYSIS

SUBJECT : Analysis of water and/or wastewater samples in accordance with Standard Methods for the Examination of Water and Wastewater, 16th Edition, 1985.

LOG NUMBER
1103019

SAMPLE DESCRIPTION
TRTD LEACH 11/28/89C



218.92

RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED

R. M. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



LAIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 36915
DATE : 12/12/89

RESULTS OF ANALYSIS

LCG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1103019	TRTD LEACH 11/28/89c	Arsenic	<0.005	mg As/l
		Barium	0.428	mg Ba/l
		B.O.D. (5-day)	8.5	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	37.2	mg/l
		Chromium	0.007	mg Cr/l
		Copper	0.005	mg Cu/l
		Iron	0.45	mg Fe/l
		Mercury	<0.0002	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead	<0.005	mg Pb/l
		pH Value	7.89	pH Unit
		Selenium	<0.005	mg Se/l
		Supervisory Charges	2	man-hrs
		Technician Charges	2	man-hrs
		Zinc	<0.005	mg Zn/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>Laidlaw Waste Systems</u>	Bottle	Preservative	Tests Requested
Address	<u>Bridgeton Landfill</u> <u>13570 St. Charles Rock Rd.</u> <u>Bridgeton, MO 63044</u>	<u>1/2 Pt. Plast.</u> <u>Qt. Plast.</u> <u>Pt. Plast.</u>	<u>H2so4, Cool</u> <u>Cool to 4 C</u> <u>HNO3</u>	<u>COD</u> <u>PH, BOD</u> <u>As, Ba, Cd, Cr, Cu,</u> <u>Fe, Pb, Hg, Ni, Se,</u> <u>Zn</u>
Contact	<u>Mr. Mike Whitlock</u>			
Telephone	<u>(314) 739-1919</u>			
Sample Identification	<u>17d leach 11/28/89</u>			
Date/Time Collected	<u>11-28-89 / 1009</u>			
Sample Type	<u>Treated Leachate</u>			
Collected By (Signature)	<u>[Signature]</u>		Total Bottles	

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 1103019
 Sample Received By (signature) [Signature] Date/Time 11-28-89 / 1337

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
<u>PH</u>	<u>[Signature]</u>	<u>11-28-89/1110</u>			
<u>COD</u>	<u>[Signature]</u>	<u>11-30-89 13:30</u>			
<u>Cu, Zn</u>	<u>[Signature]</u>	<u>11-30-89/1114</u>			
<u>BOD</u>	<u>[Signature]</u>	<u>11/29-12/4 1330</u>			
<u>SE</u>	<u>[Signature]</u>	<u>12-7-89 0921</u>			
<u>As</u>	<u>[Signature]</u>	<u>12-9 1320</u>			
<u>Pb</u>	<u>[Signature]</u>	<u>12-6 1320</u>			
<u>FE, CR, NI, CD</u>	<u>[Signature]</u>	<u>12-5/0829</u>			
<u>EA</u>	<u>[Signature]</u>	<u>12-8-89 0927</u>			
<u>Hg</u>	<u>[Signature]</u>	<u>12-12/1002</u>			

REPORT OF ANALYSIS

Lab #1: Report No. 36915 Date: 12/2/89 Signature: [Signature]
 Title: _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



December 14, 1989

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from the Laidlaw - Bridgeton Landfill. This report is for the sample collected in November, 1989. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



December 14, 1989

Mr. Ronald Darling
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

Dear Mr. Darling,

The following measurements were made on the leachate sumps at the Laidlaw - Bridgeton Landfill on November 28, 1989.

<u>SUMP DESIGNATION</u>	<u>DEPTH OF LIQUID, FT</u>
K 100	17.22
K 123	27.70
K 124	14.02
K 128	18.46

If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock (Laidlaw)
Scott Schreiber (Laidlaw)



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



MR. MIKE WHITLOCK
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

PAGE NO : 1
REPORT NO : 37083
DATE : 01/02/90
P.O. No. : 213663

REPORT OF ANALYSIS

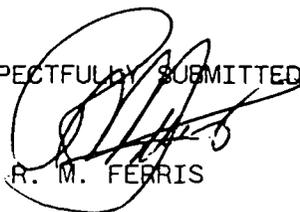
SUBJECT : Analysis of waste samples in accordance with SW-846: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods, 3rd Edition, 1986; where applicable.

LOG NUMBER
1104424

SAMPLE DESCRIPTION
TRTD LEACHATE 12/12C

RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


R. M. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



LAILAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 37083
DATE : 01/02/90

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1104424	TRTD LEACHATE 12/12c	Arsenic	0.006	mg As/l
		Barium	0.28	mg Ba/l
		B.O.D. (5-day)	5.1	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	43.5	mg/l
		Chromium	<0.005	mg Cr/l
		Copper	0.028	mg Cu/l
		Iron	0.45	mg Fe/l
		Mercury	0.011	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead	<0.005	mg Pb/l
		pH Value	7.78	pH Unit
		Selenium	<0.005	mg Se/l
		Supervisory Charges	4	man-hrs
		Technician Charges	4	man-hrs
		Zinc	0.019	mg Zn/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>Laidlaw Waste Systems</u>	Bottle	Preservative	Tests Requested
Address	<u>Bridgeton Landfill 1/2 Pt. Plast.</u> <u>13570 St. Charles Rock Rd. Qt. Plast.</u> <u>Bridgeton, MO 63044 Pt. Plast.</u>		<u>H2so4, Cool</u> <u>Cool to 4 C</u> <u>HNO3</u>	<u>COD</u> <u>PH, BOD</u> <u>As, Ba, Cd, Cr, Cu,</u> <u>Fe, Pb, Hg, Ni, Se,</u> <u>Zn</u>
Contact	<u>Mr. Mike Whitlock</u>			
Telephone	<u>(314) 739-1919</u>			
Sample Identification	<u>Treated Leachate</u>			
Date/Time Collected	<u>12/12/89 0930</u>			
Sample Type	<u>Treated Leachate</u>			
Collected By (Signature)	<u>D. Ahmed</u>	<u>3</u>	Total Bottles	

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 1104424
 Sample Received By (signature) D. Ahmed Date/Time 12/14/89 1030

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
<u>COD</u>	<u>J. Muller</u>	<u>12-13-89 11:00</u>			
<u>PH</u>	<u>J. Muller</u>	<u>12-12/11:30</u>			
<u>CR, CU, NI, SE</u>	<u>J. Muller</u>	<u>12-12/11:17</u>			
<u>NI, FE</u>	<u>J. Muller</u>	<u>12-11/10:50</u>			
<u>BOD</u>	<u>J. Muller</u>	<u>12-18-89 12:00</u>			
<u>SE</u>	<u>Wm P Stone</u>	<u>12-21-89 11:28</u>			
<u>AS</u>	<u>Wm P Stone</u>	<u>12-20-89 11:32</u>			
<u>BA</u>	<u>Wm P Stone</u>	<u>12-27-89 0744</u>			
<u>PB</u>	<u>Wm P Stone</u>	<u>12-28-89 1326</u>			
<u>HG</u>	<u>W. W. W. W. W.</u>	<u>12-29-89/0931</u>			

REPORT OF ANALYSIS

Lab #1: Report No. 37083 Date: 1/2/90 Signature: [Signature]
 Title: _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



January 4, 1990

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
£10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from the Laidlaw - Bridgeton Landfill. This report is for the sample collected in December, 1989. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



12/29/89

	<u>depth</u>	<u>depth to liquid</u>
K-123	89.20	59.64
K-124	87.32	48.90
K-128	30.84	18.85
K-100	37.22	15.45



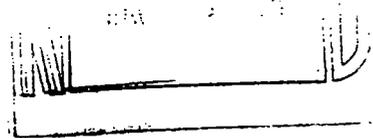
Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



January 4, 1990

Mr. Ronald Darling
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105



Dear Mr. Darling,

The following measurements were made on the leachate sumps at the Laidlaw - Bridgeton Landfill on December 29, 1989.

SUMP DESIGNATION

DEPTH OF LIQUID, FT

K 100	21.74
K 123	29.56
K 124	38.42
K 128	16.99

If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock (Laidlaw)
Scott Schreiber (Laidlaw)



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



MR. MIKE WHITLOCK
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

PAGE NO : 1
REPORT NO : 37529
DATE : 02/08/90
P.O. No. : 213967

REPORT OF ANALYSIS

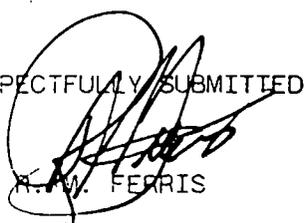
SUBJECT : Analysis of water and/or wastewater samples in accordance with Standard Methods for the Examination of Water and Waste, 16th Edition, 1985.

LOG NUMBER
1107826

SAMPLE DESCRIPTION
TRTD LEACH 1/25/90 C

RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED



R. W. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



LAIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 37529
DATE : 02/08/90

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1107826	TRTD LEACH 1/25/90 c	Arsenic	<0.005	mg As/l
		Barium	0.85	mg Ba/l
		B.O.D. (5-day)	33.9	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	117	mg/l
		Chromium	0.009	mg Cr/l
		Copper	0.010	mg Cu/l
		Iron	3.20	mg Fe/l
		Mercury	0.0020	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead	0.014	mg Pb/l
		pH Value	7.46	pH Unit
		Selenium	<0.005	mg Se/l
		Technician Charges	4	man-hrs
		Zinc	0.125	mg Zn/l



Environmental Analysis, Inc.

3278 N Lindbergh Blvd. Florissant, MO 63033 · 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	Bottle	Preservative	Tests Requested
Laidlaw Waste Systems			
Address: Bridgeton Landfill	1/2 Pt. Plast.	H2so4, Cool	COD
13570 St. Charles Rock Rd.	Qt. Plast.	Cool to 4 C	PH, BOD
Bridgeton, MO 63044	Pt. Plast.	HN03	As, Sa, Cd, Cr, Cu, Fe, Pb, Hg, Ni, Se, Zn
Contact: Mr. Mike Whitlock			
Telephone: (314) 739-1919			
Sample Identification: <i>treated leachate</i>			
Date/Time Collected: <i>1-25-90 / 1123</i>			
Sample Type: <i>Treated Leachate</i>			
Collected By (Signature): <i>[Signature]</i>	3	Total Bottles	

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 107826
 Sample Received By (signature) [Signature] Date/Time 1-25-90 / 1124

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
<i>PH</i>	<i>[Signature]</i>	<i>1-25-90</i>			
<i>BA</i>	<i>Wm P Stone</i>	<i>1-29-90 0935</i>			
<i>COD</i>	<i>[Signature]</i>	<i>1-29-90 10:15</i>			
<i>BOD</i>	<i>[Signature]</i>	<i>1-25-90 15:10</i>			
<i>u</i>		<i>1-30-90 12:15</i>			
<i>Cu, Zn, Ni, Fe</i>	<i>[Signature]</i>	<i>1-29 10:15</i>			
<i>PB</i>	<i>Wm P Stone</i>	<i>1-30-90 1257</i>			
<i>SE</i>	<i>Wm P Stone</i>	<i>1-31-90 0850</i>			
<i>Cd, Cr</i>	<i>[Signature]</i>	<i>1-31-90 11:03</i>			
<i>AS</i>	<i>[Signature]</i>	<i>1-31-90 1211</i>			
<i>Hg</i>	<i>[Signature]</i>	<i>2-6 1130</i>			

REPORT OF ANALYSIS

Lab #1: Report No. 37529 Date: 2-8-90 Signature: [Signature]
 Title: _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



February 9, 1990

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from the Laidlaw - Bridgeton Landfill. This report is for the sample collected in January, 1990. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted

A handwritten signature in cursive script, appearing to read 'Chris L. Segaffredo', written over the typed name.

Chris L. Segaffredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



February 9, 1990

Mr. Ronald Darling
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

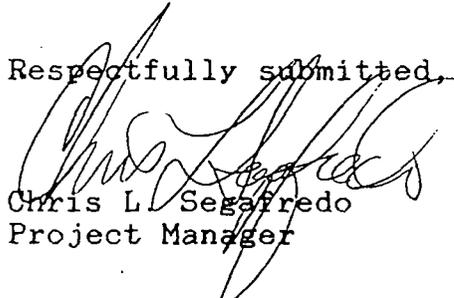
Dear Mr. Darling,

The following measurements were made on the leachate sumps at the Laidlaw - Bridgeton Landfill on January 25, 1990.

<u>SUMP DESIGNATION</u>	<u>DEPTH OF LIQUID, FT</u>
K 100	21.45
K 123	29.40
K 124	15.12
K 128	17.06

If you have any questions, please call me at (314) 921-4488.

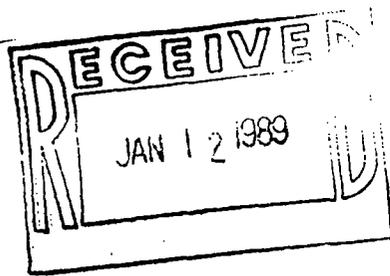
Respectfully submitted,


Chris L. Segarredo
Project Manager

CLS/jr

cc: Mike Whitlock (Laidlaw)
Scott Schreiber (Laidlaw)





Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>Laidlaw Waste Systems</u>	Bottle	<u>1/2 Pt. Plast.</u>	Preservative	<u>H2SO4, Cool</u>	Tests Requested	<u>COD</u>
Address	<u>Westlake Landfill</u>	<u>1/2 Pt. Plast.</u>	<u>H2SO4, Cool</u>	<u>Cool</u>	<u>Cool</u>	<u>BOD, pH</u>	<u>As, Ba, Cd, Cr, Cu, Fe</u>
	<u>P. O. Box 1162</u>	<u>Pt. Plast.</u>	<u>HNO3</u>			<u>Pb, Hg, Ni, Se, Zn</u>	
	<u>5. Roxana, IL 62087</u>						
Contact	<u>Mr. Mike Whitlock</u>						
Telephone	<u>(314) 739-1919</u>						
Sample Identification	<u>tr. leachate 12/16C</u>						
Date/Time Collected	<u>12-16-88 / 1128</u>						
Sample Type	<u>Treated leachate</u>						
Collected By (Signature)	<u>Juff Carr</u>	<u>3</u>	Total Bottles				

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 1002733
 Sample Received By (signature) Juff Carr Date/Time 12-16-88 / 1213

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
<u>pH</u>	<u>G.P. Soto</u>	<u>12-16-88 300</u>			
<u>As</u>	<u>T.W. Wises</u>	<u>12-20 1030</u>			
<u>BOD</u>	<u>T.W. Wises</u>	<u>12-21 900</u>			
<u>COD</u>	<u>T.W. Wises</u>	<u>12-21 900</u>			
<u>Cd, Cr, Ni</u>	<u>B.P. Parrelly</u>	<u>12-19</u>			
<u>Hg</u>	<u>B.P. Parrelly</u>	<u>12-20</u>			
<u>Cu, Pb</u>	<u>B.P. Parrelly</u>	<u>12-21</u>			
<u>Pb</u>	<u>T.W. Wises</u>	<u>12-22 1030</u>			
<u>Ba</u>	<u>T.W. Wises</u>	<u>12-23 1100</u>			
		<u>12-30 1325</u>			

REPORT OF ANALYSIS

Lab #1: Report No. 32637 Date: 12/30/88 Signature: [Signature]
 Title: _____
 Lab #2: Report No. _____ Date: _____ Signature: _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



INVOICE NO : 32637

DATE : 12/30/88

CUSTOMER P.O. :

BILL TO:

LIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
P.O. BOX 1162
SOUTH ROXANA IL 62087
MR. MIKE WHITLOCK

REPORT TO:

LIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
P.O. BOX 1162
SOUTH ROXANA IL 62087
MR. MIKE WHITLOCK

Date Sent 12/30/88 Sent VIA U. S. MAIL Terms : NET 30 DAYS

Quantity	Description	Unit Price	Amount
1	Arsenic	13.68	13.68
1	Barium	13.68	13.68
1	B.O.D. (5-day)	19.80	19.80
1	Cadmium	13.68	13.68
1	C.O.D.	9.00	9.00
1	Chromium	6.48	6.48
1	Copper	6.48	6.48
1	Iron	6.48	6.48
1	Mercury	13.68	13.68
1	Nickel	6.48	6.48
1	Lead	6.48	6.48
1	pH Value	3.60	3.60
1	Selenium	13.68	13.68
3	Technician Charges	30.00	90.00
1	Zinc	6.48	6.48

Thank You

TOTAL==>> 229.68



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



January 10, 1989

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from West Lake Landfill. This report is for the sample collected in December, 1988. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



January 10, 1989

Mr. Ronald Darling
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

Dear Mr. Darling,

The following measurements were made on the leachate sumps at West Lake Sanitary Landfill on December 16, 1988.

<u>SUMP DESIGNATION</u>	<u>DEPTH OF LIQUID, FT</u>
K 100	16.42
K 123	30.96
K 124	24.67
K 128	13.59

If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock (Laidlaw)
Scott Schreiber (Laidlaw)



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



MR. MIKE WHITLOCK
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

PAGE NO : 1
REPORT NO : 33287
DATE : 02/23/89
P.O. No. :

REPORT OF ANALYSIS

SUBJECT : Analysis of waste samples in accordance with SW-846: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods, 1982; where applicable.

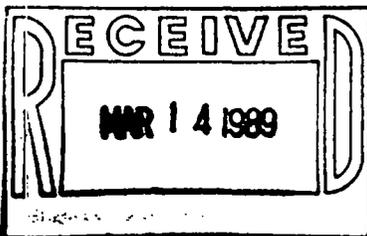
LOG NUMBER
1006934

SAMPLE DESCRIPTION
LEACHATE 2/14/89 C

RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


R. M. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



LIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 33287
DATE : 02/23/89

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1006934	LEACHATE 2/14/89 c	Arsenic	<0.005	mg As/
		Barium	<0.25	mg Ba/
		B.O.D. (5-day)	17.6	mg/l
		Cadmium	<0.005	mg Cd/
		C.O.D.	61.0	mg/l
		Chromium	0.029	mg Cr/
		Copper	0.005	mg Cu/
		Iron	1.09	mg Fe/
		Mercury	0.0003	mg Hg/
		Nickel	<0.05	mg Ni/
		Lead	<0.005	mg Pb/
		pH Value	7.35	pH Uni
		Selenium	<0.005	mg Se/
		Technician Charges	4	man-hr
		Zinc	0.022	mg Zn/



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>Laidlaw Waste Systems</u>	Bottle	Preservative	Tests Requested
Address	<u>Westlake Landfill</u>	<u>1/2 Pt. Plast.</u>	<u>H2SO4, Cool</u>	<u>COD</u>
	<u>P. O. Box 1162</u>	<u>Qt. Plast.</u>	<u>Cool</u>	<u>BOD, pH</u>
	<u>S. Roxana, IL 62087</u>	<u>Pt. Plast.</u>	<u>HNO3</u>	<u>As, Ba, Cd, Cr, Cu, Fe</u>
Contact	<u>Mr. Mike Whitlock</u>			<u>Pb, Hg, Ni, Se, Zn</u>
Telephone	<u>(314) 739-1919</u>			
Sample Identification	<u>Leachate 2/14/89C</u>			
Date/Time Collected	<u>2-14-89/0944</u>			
Sample Type	<u>Treated Leachate</u>			
Collected By (Signature)	<u>Jeff Carr</u>	<u>3</u>	Total Bottles	

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 1006934
 Sample Received By (signature) Jeff Carr Date/Time 2-14-89/1205

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
<u>pH</u>	<u>J.C. Budin</u>	<u>2-14 1315</u>			
<u>As</u>	<u>J.C. Budin</u>	<u>2-15 1030</u>			
<u>Se</u>	<u>J.C. Budin</u>	<u>2-16 1020</u>			
<u>Cd, Cu, Cr, Zn</u>	<u>B. Pareilly</u>	<u>2-16 1300</u>			
<u>COD</u>	<u>J.C. Budin</u>	<u>2-17 0900</u>			
<u>Pb</u>	<u>J.C. Budin</u>	<u>2-17 1030</u>			
<u>hpf</u>	<u>T. Wilson</u>	<u>2-15/1230</u>			
<u>Fe, BA</u>	<u>B. Pareilly</u>	<u>2-21 1300</u>			
<u>Ni</u>	<u>B. Pareilly</u>	<u>2-20 1400</u>			
<u>Hg</u>	<u>B. Pareilly</u>	<u>2-22 1400</u>			

REPORT OF ANALYSIS

Lab #1: Report No. 33287 Date: 2-23-89 Signature: [Signature]
 Title: _____
 Lab #2: Report No. _____ Date: _____ Signature: _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



March 9, 1989

Mr. Ronald Darling
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

Dear Mr. Darling,

The following measurements were made on the leachate sumps at West Lake Sanitary Landfill on February 14, 1989.

<u>SUMP DESIGNATION</u>	<u>DEPTH OF LIQUID, FT</u>
K 100	11.10
K 123	32.70
K 124	25.97
K 128	20.58

If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock (Laidlaw)
Scott Schreiber (Laidlaw)



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



March 9, 1989

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from West Lake Landfill. This report is for the sample collected in February, 1989. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber





February 24, 1989

Environmental Analysis
3278 N. Lindbergh
Florissant, MO 63033

Attention: Mr. Chris Segafredo

Subject: Report of Data - Ticket # 3269

Dear Mr. Segafredo:

Enclosed herewith are results of analytical work performed in accordance with EPA methodology described in IFB # WA 86-K357, the EPA method required for analysis of 2,3,7,8-tetra-chlorodibenzo-p-dioxin. This report includes data for one water sample received by CHEMWEST on February 8, 1989. Also included is data for one method blank.

The blank associated with the sample was free from contamination. The sample was analyzed on a SP 2331 column, and the data was calculated using EICP areas.

CHEMWEST experienced no technical difficulty with the analysis of this sample. The sample passed all contract required criteria upon the analysis of the first extract. Your sample did not contain native dioxin above the detection level and all MPC's are reported as ng/L (ppt).

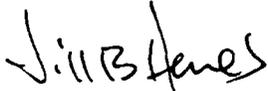
The report is divided into the following sections:

1. Cover Letter
2. B-(n) Summary Reports

Page 2
February 24, 1989
Mr. Segafredo

CHEMWEST welcomes any suggestions or comments regarding our deliverables package. If you have any questions concerning this report, please contact me at 916-923-0840.

Sincerely,



Jill B. Henes, Ph.D.
Vice President of Technical Services

JBH:pjg

cc: Joel Bird, President

FORM B-1W. TCDD WATER DATA REPORT FORM

Lab: ChemWest
 Case No.: 3269
 Instrument ID: CW-1

Report Date: 2-21-89
 Column: SP-2331

Client	ChemWest	Extr.		ng/L					*
Sample No.	Sample No.	Date	Volume	Meas.	TCDD	GC/MS	Analysis	Surr.	% REC (IS)
					MPC	Date	Time	S/N Ratio	
Method Blank	3241-MBRI	2/8/89	1.0L	ND	0.52	2-14-89	19:19	6.0	96.6
Leachate tank	3269-1	2/8/89	0.90L	ND	0.85	2-14-89	19:40	7.3	87.6

MB = Method Blank
 N = Native TCDD Spike
 D = Duplicate/Fortified Field Blank
 FE = EMSL-LV Performance Evaluation Sample
 MPC = Maximum Possible Concentration
 Note: Relative to 13C12-1,2,3,4-TCDD

FB = Field Blank
 IS = Internal Standard
 NR = Not Recovered
 ND = Not Detected
 RS = Recovery Standard

Approved By: 

FORM B-2
INITIAL CALIBRATION SUMMARY

Page 1 of 2

Laboratory: ChemWest

CC Solution Alternative: NA

Case/Batch No.: 3269

Instrument ID: CW-1

Date	Time	Sol.		320	322	328	332 IS	334 IS	332RS	334RS
		ID								
10/03/88	9:40	CC1		293473	351136	227024	1212960	1564710	628256	824416
10/03/88	11:18	CC1		326304	415584	252240	1409300	1797100	747840	946512
10/03/88	12:55	CC1		375696	473344	298306	1604780	2038750	870738	1094520
10/03/88	10:00	CC2		1866640	2354790	618472	1597290	2065930	885248	1138130
10/03/88	11:38	CC2		2160770	2723030	689528	1843530	2403410	1022740	1323170
10/03/88	13:15	CC2		2395550	2986840	754704	2008090	2564980	1087880	1404520
10/03/88	10:19	CC3		8799450	11105000	1004960	1601090	1998920	871664	1091530
10/03/88	11:57	CC3		8592380	10807500	972512	1511740	1913240	831528	1056600
10/03/88	13:35	CC3		9556560	11957900	1088250	1662830	2113680	911680	1182010
10/03/88	10:39	CC4		33977000	42870400	389600	1505940	1898150	838304	1055600
10/03/88	12:17	CC4		33938900	42689900	390272	1485930	1908640	848999	1071110
10/03/88	13:54	CC4		34918600	43949700	405704	1536020	1958100	853820	1081580

Solution ID Codes:

CC1 = Concentration calibration solution #1
 CC2 = Concentration calibration solution #2
 CC3 = Concentration calibration solution #3
 CC4 = Concentration calibration solution #4

* Not present in CC
 Solution Alternative One.

Approved By:  _____

FORM B-2
INITIAL CALIBRATION SUMMARY

Page 2 of 2

Laboratory: ChemWest

CC Solution Alternative: NA

Case/Batch No.: 3269

Instrument ID: CW-1

Date	Time	Sol. ID	Measured RRF _n	Mean RRF _n	Measured RRF _i	Mean RRF _i
10/03/88	9:40	CC1	1.16		1.15	
10/03/88	11:18	CC1	1.16	1.16	1.13	1.13
10/03/88	12:55	CC1	1.16		1.11	
10/03/88	10:00	CC2	1.15		1.09	
10/03/88	11:38	CC2	1.15	1.16	1.09	1.09
10/03/88	13:15	CC2	1.18		1.10	
10/03/88	10:19	CC3	1.11		1.10	
10/03/88	11:57	CC3	1.13	1.13	1.09	1.09
10/03/88	13:35	CC3	1.14		1.08	
10/03/88	10:39	CC4	1.13		1.08	
10/03/88	12:17	CC4	1.13	1.13	1.06	1.07
10/03/88	13:54	CC4	1.13		1.08	

Solution ID Codes:

- CC1 = Concentration calibration solution #1
- CC2 = Concentration calibration solution #2
- CC3 = Concentration calibration solution #3
- CC4 = Concentration calibration solution #4

%RSD:	RRF _n	RRF _i		
CC1 =	0	1.9		
CC2 =	1.6	0.53		
CC3 =	1.5	0.92	Native Mean	IS Mean
CC4 =	0	1.1	Of Means : 1.1	Of Means: 1.1

Approved By: _____

FORM B-3
 ROUTINE CALIBRATION SUMMARY

Laboratory: ChemWest

CC Solution Alternative: NA

Instrument ID: CW-2

	(PCS) PERFORMANCE CHECK SOL.		(CC2) CON. CALIB. SOL. #2	
	2/14/89	2/14/89	2/14/89	2/14/89
Date	2/14/89	2/14/89	2/14/89	2/14/89
Time	9:48	20:28	10:14	20:06

Response

259	152192	140448	889728	848320
320	357772	279424	2042420	1691960
322	443328	358076	2567700	2144600
328	71488	64704	382581	577728
332 IS	972882	761344	1898680	1514940
334 IS	1151990	938144	2313650	1863670
332RS	1799800	1392630	1054230	812480
334RS	2234170	1715030	1280820	1017690

Ratios

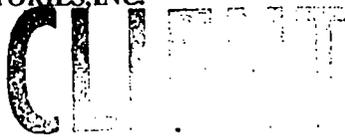
320/322	0.81	0.78	0.80	0.74
332/334 IS	0.84	0.81	0.82	0.77
332/334RS	0.81	0.81	0.82	0.81
RRFn	---	---	1.09	1.13
RRFi	---	---	1.08	1.11
% Valley	5.56	5.88	---	---

Approved By: _____



CHEM WEST ANALYTICAL LABORATORIES, INC.

600 West North Market Blvd.
Sacramento, California 95834
(916) 923-0840 FAX (916) 923-1938



Order No. 3269
Date Rec'd. 2/8/89 @ 11:00
Compl. Date
Section Jill Hemes

CLIENT: Compuchem Laboratories, Inc.
3308 Chapel Hill / Nelson Hwy
Research Triangle Park, NC
27709

Project Name: Compuchem Labs
Project No. 89-21
PO. NO.
Contact: Angela Childress
Phone: (919) 549-8263

ANALYSIS: One water sample rec'd under chain of
custody in 1 qt amber glass bottles (1) to be analyzed
for 2,3,7,8-TCDD.

sample Id C.C.# Date analysis Matrix container
3269 - deacrate tank 244182 1/26/89 2,3,7,8-TCDD water 1-1qt bottle

Dm
H.T. MICHELLE TOLVER

002161698 545

airborne Co: 002161698 545

CHAIN OF CUSTODY RECORD

PROJ. NO.		PROJECT NAME				NO. OF CONTAINERS	REMARKS														
89-21		Compu Chem Labs.																			
SAMPLERS: (Signature)						"Dioxin"															
Q# 16104 Environmental Analysis Inc.																					
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION																
Leachate Tank	1/26				244182	1	TODD in 48 dec by GC/MS sample shipped at 4°C														
							SAMPLES REC'D IN GOOD CONDITION														
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)											
Kevin O'Leary		2/7/89 1700																			
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)											
Relinquished by: (Signature)		Date / Time		Received for Laboratory by: (Signature)		Date / Time		Remarks													
				Thomas D. Kelly		2/8/89 1100		SAMPLE SAVER REC'D WITH CUSTODY SEAL IN TACT.													

Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



MR. MIKE WHITLOCK
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

PAGE NO : 1
REPORT NO : 33783
DATE : 04/05/89
P.O. No. : 173464

REPORT OF ANALYSIS

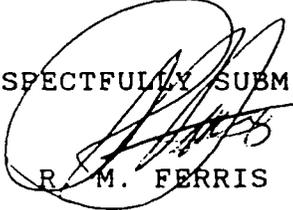
SUBJECT : Analysis of waste samples in accordance with SW-84
6: Test Methods for Evaluating Solid Waste - Physi-
cal/Chemical Methods, 3rd Edition, 1986; where app-
licable.

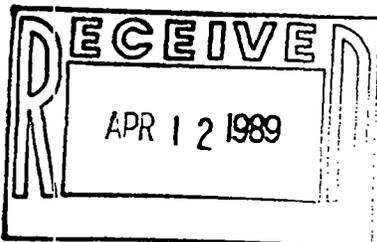
LOG NUMBER
1010413

SAMPLE DESCRIPTION
TRTD LEACH 3/22/89 C

RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


R. M. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



LIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 33783
DATE : 04/05/89

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1010413	TRTD LEACH 3/22/89 c	Arsenic	0.021	mg As/l
		Barium	<0.25	mg Ba/l
		B.O.D. (5-day)	11.8	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	61.1	mg/l
		Chromium	0.014	mg Cr/l
		Copper	0.009	mg Cu/l
		Iron	0.49	mg Fe/l
		Mercury	0.0003	mg Hg/l
		Nickel	0.08	mg Ni/l
		Lead	<0.005	mg Pb/l
		pH Value	7.93	pH Unit
		Selenium	<0.005	mg Se/l
		Technician Charges	3	man-hrs
		Zinc	<0.005	mg Zn/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	Bottle	Preservative	Tests Requested
Laidlaw Waste Systems			
Address: Westlake Landfill	1/2 Pt. Plast.	H2SO4, Cool	COD
P. O. Box 1162	Qt. Plast.	Cool	BOD, pH
S. Roxana, IL 62087	Pt. Plast.	HNO3	As, Ba, Cd, Cr, Cu, Fe, Pb, Hg, Ni, Se, Zn
Contact: Mr. Mike Whitlock			
Telephone: (314) 739-1919			
Sample Identification: <u>Treated Leach</u>			
Date/Time Collected: <u>3-2-89 / 1316</u>			
Sample Type: <u>Treated Leachate</u>			
Collected By (Signature): <u>[Signature]</u>	<u>3</u>	Total Bottles	

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 1010413
 Sample Received By (signature) [Signature] Date/Time 3-22-89 / 1424

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
BOD	[Signature]	3-22-89 1500			
Cr, Cd, Ba, Zn, Cu, Ni, Pb, Hg, Ni, Se, Zn	[Signature]	3-28 1300			
pH	[Signature]	3-22 / 2:30			
As	[Signature]	3-30 1100			
Fe, Mn	[Signature]	3-30 1000			
Cl	[Signature]	3-28 1300			
Pb	[Signature]	4-3 1030			
Se	[Signature]	4-4 1300			
COD	[Signature]	4-3 0945			

REPORT OF ANALYSIS

Lab #1: Report No. 33783 Date: 4/5/89 Signature: [Signature]
 Title: _____
 Lab #2: Report No. _____ Date: _____ Signature: _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. Florissant, MO 63033 • 314-921-4488



April 10, 1989

Mr. Ronald Darling
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

Dear Mr. Darling,

The following measurements were made on the leachate sumps at West Lake Sanitary Landfill on March 31, 1989.

<u>SUMP DESIGNATION</u>	<u>DEPTH OF LIQUID, FT.</u>
K 100	27.32
K 123	28.06
K 124	1.67
K 128	21.47

If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,

Chris L. Segafredo
Project Manager

CLSZ/jf

cc: Mike Whitlock (Laidlaw)
Scott Schreiber (Laidlaw)



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



April 10, 1989

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from West Lake Landfill. This report is for the sample collected on March 22, 1989. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



MR. MIKE WHITLOCK
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

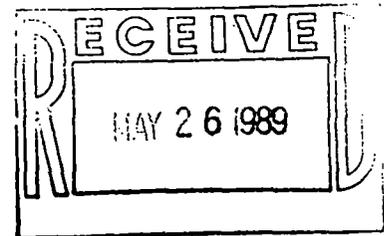
PAGE NO : 1
REPORT NO : 34292
DATE : 05/18/89
P.O. No. :

REPORT OF ANALYSIS

SUBJECT : Analysis of waste samples in accordance with SW-846: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods, 3rd Edition, 1986; where applicable.

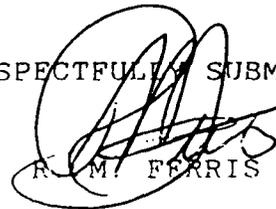
LOG NUMBER
1013825

SAMPLE DESCRIPTION
TRTD LEACH 4/28/89 C



RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


R. M. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



LAIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 34292
DATE : 05/18/89

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1013825	TRTD LEACH 4/28/89 c	Arsenic	<0.005	mg As/l
		Barium	<0.25	mg Ba/l
		B.O.D. (5-day)	14.7	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	25.3	mg/l
		Chromium	0.016	mg Cr/l
		Copper	<0.005	mg Cu/l
		Iron	0.29	mg Fe/l
		Mercury	<0.0002	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead	<0.005	mg Pb/l
		pH Value	7.64	pH Unit
		Selenium	<0.005	mg Se/l
		Technician Charges	5	man-hrs
		Zinc	<0.005	mg Zn/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



May 2, 1989

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from West Lake Landfill. This report is for the sample collected on April 28, 1989. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	Bottle	Preservative	Tests Requested
Laidlaw Waste Systems	1/2 Pt. Plast.	H2SO4, Cool	COD
Westlake Landfill	Qt. Plast.	Cool	BOD, pH
P. O. Box 1162	Pt. Plast.	HNU3	As, Ba, Cd, Cr, Cu, Fe
S. Roxana, IL 62087			Pb, Hg, Ni, Se, Zn
Contact Mr. Mike Whitlock			
Telephone (314) 739-1919			
Sample Identification trtd leach			
Date/Time Collected 4-28-89/1104			
Sample Type Treated Leachate			
Collected By (Signature) Jeff Carr	3	Total Bottles	

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 1013825
 Sample Received By (signature) Jeff Carr Date/Time 4-28-89/1300

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
Hg	B. J. Pandey	5-1-89 1300			
Cu, Ni, Zn	B. J. Pandey	5-2-89 1300			
Cd, Cr	B. J. Pandey	5-3-89 1300			
BOD	B. J. Pandey	5-5-89 1300			
FE	B. J. Pandey	4-28-89 1300			
Pb	B. J. Pandey	5-9-89 1232			
Cu	Wm P. Stott	5-16-89 1029			
PB	Wm P. Stott	5-2-89 1240			
SE AS					
SE					

REPORT OF ANALYSIS

Lab #1: Report No. 34393 Date: 5/18/89 Signature: [Signature]
 Title: _____
 Lab #2: Report No. _____ Date: _____ Signature: _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



May 2, 1989

Mr. Ronald Darling
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

Dear Mr. Darling,

The following measurements were made on the leachate sumps at West Lake Sanitary Landfill on April 28, 1989.

<u>SUMP DESIGNATION</u>	<u>DEPTH OF LIQUID, FT</u>
K 100	26.01
K 123	38.91
K 124	32.55
K 128	21.99

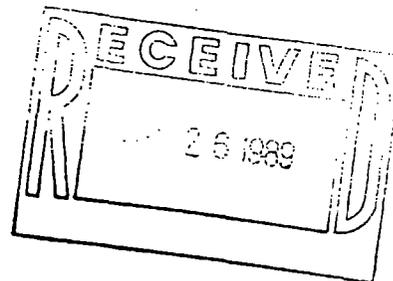
If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock (Laidlaw)
Scott Schreiber (Laidlaw)



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



MR. MIKE WHITLOCK
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

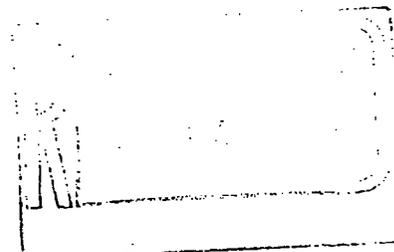
PAGE NO : 1
REPORT NO : 34690
DATE : 06/14/89
P.O. No. : 175430

REPORT OF ANALYSIS

SUBJECT : Analysis of waste samples in accordance with SW-846: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods, 3rd Edition, 1986; where applicable.

LOG NUMBER
1016802

SAMPLE DESCRIPTION
TRTD LEACH 5/30/89 C



RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED

R. M. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



LIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 34690
DATE : 06/14/89

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1016802	TRTD LEACH 5/30/89 c	Arsenic	<0.005	mg As/l
		Barium	0.197	mg Ba/l
		B.O.D. (5-day)	6.2	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	66.6	mg/l
		Chromium	<0.005	mg Cr/l
		Copper	0.005	mg Cu/l
		Iron	0.83	mg Fe/l
		Mercury	0.0006	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead	<0.005	mg Pb/l
		pH Value	7.83	pH Unit
		Selenium	<0.005	mg Se/l
		Technician Charges	4	man-hrs
		Zinc	<0.005	mg Zn/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>Laidlaw Waste Systems</u>	Bottle	Preservative	Tests Requested
Address	<u>Westlake Landfill</u>	<u>1/2 Pt. Plast.</u>	<u>H2SO4, Cool</u>	<u>COD</u>
	<u>P. O. Box 1162</u>	<u>Qt. Plast.</u>	<u>Cool</u>	<u>BOD, pH</u>
	<u>S. Roxana, IL 62087</u>	<u>Pt. Plast.</u>	<u>HNO3</u>	<u>As, Ba, Cd, Cr, Cu, Fe</u>
				<u>Pb, Hg, Ni, Se, Zn</u>
Contact	<u>Mr. Mike Whitlock</u>			
Telephone	<u>(314) 739-1919</u>			
Sample Identification	<u>trtd leach</u>			
Date/Time Collected	<u>5-30-89 / 1322</u>			
Sample Type	<u>Treated Leachate</u>			
Collected By (Signature)	<u>Jeff Carr</u>	<u>3</u>	Total Bottles	

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc.			Laboratory Log Number <u>1016802</u>		
Sample Received By (signature) <u>Jeff Carr</u>			Date/Time <u>5-30-89 / 1600</u>		
Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
<u>PH</u>	<u>Wm P. Stone</u>	<u>5-30-89 / 1600</u>			
<u>As, Cr, Zn</u>	<u>Wm P. Stone</u>	<u>6-5-89 1259</u>			
<u>BOD</u>	<u>Wm P. Stone</u>	<u>6-7-89 1500</u>			
<u>Cr</u>	<u>Wm P. Stone</u>	<u>5-31 / 1516</u>			
<u>COD</u>	<u>Wm P. Stone</u>	<u>6-5 / 1517</u>			
<u>PB</u>	<u>Wm P. Stone</u>	<u>6-5-89 1259</u>			
<u>Hg</u>	<u>Wm P. Stone</u>	<u>6-6-89 1300</u>			
<u>SE</u>	<u>Wm P. Stone</u>	<u>6-8-89 1047</u>			
<u>Fe</u>	<u>Wm P. Stone</u>	<u>6-9-89 1300</u>			
<u>AS</u>	<u>Wm P. Stone</u>	<u>6-12-89 0841</u>			
<u>BA</u>	<u>Wm P. Stone</u>	<u>6-13-89 1153</u>			

REPORT OF ANALYSIS

Lab #1: Report No. 34690 **Date:** 6/14/89 **Signature:** [Signature]
Title: _____

Lab #2: Report No. _____ **Date:** _____ **Signature:** _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



July 7, 1989

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from the Laidlaw - Bridgeton Landfill. This report is for the sample collected on May 30, 1989. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



July 7, 1989

Mr. Ronald Darling
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

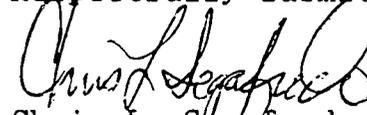
Dear Mr. Darling,

The following measurements were made on the leachate sumps at the Laidlaw - Bridgeton Landfill on May 30, 1989.

<u>SUMP DESIGNATION</u>	<u>DEPTH OF LIQUID, FT</u>
K 100	26.00
K 123	32.46
K 124	32.87
K 128	20.87

If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,


Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock (Laidlaw)
Scott Schreiber (Laidlaw)



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



MR. MIKE WHITLOCK
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

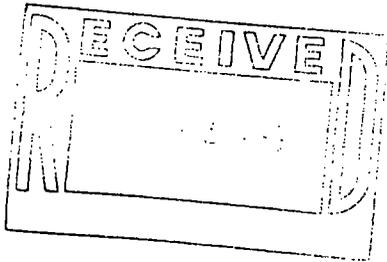
PAGE NO : 1
REPORT NO : 35113
DATE : 07/14/89
P.O. No. :

REPORT OF ANALYSIS

SUBJECT : Analysis of waste samples in accordance with SW-846: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods, 3rd Edition, 1986; where applicable.

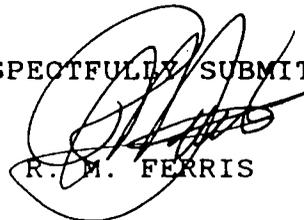
LOG NUMBER
1019122

SAMPLE DESCRIPTION
TRTD LEACH 6/26/89 C



RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


R. M. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



LAIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 35113
DATE : 07/14/89

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1019122	TRTD LEACH 6/26/89 c	Arsenic	<0.005	mg As/l
		Barium	0.508	mg Ba/l
		B.O.D. (5-day)	13.4	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	139	mg/l
		Chromium	0.023	mg Cr/l
		Copper	<0.005	mg Cu/l
		Iron	0.47	mg Fe/l
		Mercury	<0.0002	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead	0.007	mg Pb/l
		pH Value	7.72	pH Unit
		Selenium	<0.005	mg Se/l
		Technician Charges	5	man-hrs
		Zinc	<0.005	mg Zn/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>Laidlaw Waste Systems</u>	Bottle	Preservative	Tests Requested
Address	<u>Westlake Landfill</u>	<u>1/2 Pt. Plast.</u>	<u>H2SO4, Cool</u>	<u>COD</u>
	<u>P. O. Box 1162</u>	<u>Qt. Plast.</u>	<u>Cool</u>	<u>BOD, pH</u>
	<u>S. Roxana, IL 62087</u>	<u>Pt. Plast.</u>	<u>HNO3</u>	<u>As, Ba, Cd, Cr, Cu, Fe</u>
Contact	<u>Mr. Mike Whitlock</u>			<u>Pb, Hg, Ni, Se, Zn</u>
Telephone	<u>(314) 739-1919</u>			
Sample Identification	<u>total leach</u>			
Date/Time Collected	<u>6-26-89 / 1036</u>			
Sample Type	<u>Treated Leachate</u>			
Collected By (Signature)	<u>[Signature]</u>	<u>3</u>	Total Bottles	

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 1019122
 Sample Received By (signature) [Signature] Date/Time 6-26-89 / 1236

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
<u>pH</u>	<u>[Signature]</u>	<u>6-26/1500</u>			
<u>Zn, Cd, Fe</u>	<u>[Signature]</u>	<u>6-28-89</u>			
<u>Cr</u>	<u>[Signature]</u>	<u>6-29-89</u>			
<u>N</u>	<u>[Signature]</u>	<u>6-26 1333 to</u>			
<u>BOD</u>	<u>[Signature]</u>	<u>6-27-1830</u>			
<u>Cu</u>	<u>[Signature]</u>	<u>7-5-89</u>			
<u>BA</u>	<u>[Signature]</u>	<u>6-30-89 0915</u>			
<u>Pb</u>	<u>[Signature]</u>	<u>7-7-89 1402</u>			
<u>SE</u>	<u>[Signature]</u>	<u>7-13-89 1008</u>			
<u>AS</u>	<u>[Signature]</u>	<u>7-13-89 1325</u>			
<u>Hg</u>	<u>[Signature]</u>	<u>7-13-89</u>			

REPORT OF ANALYSIS

Lab #1: Report No. 35113 Date: 7/14/89 Signature: [Signature]
 Title: _____
 Lab #2: Report No. _____ Date: _____ Signature: _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



July 7, 1989

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from the Laidlaw - Bridgeton Landfill. This report is for the sample collected on June 26, 1989. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



July 7, 1989

Mr. Ronald Darling
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

Dear Mr. Darling,

The following measurements were made on the leachate sumps at the Laidlaw - Bridgeton Landfill on June 26, 1989.

<u>SUMP DESIGNATION</u>	<u>DEPTH OF LIQUID, FT</u>
K 100	23.56
K 123	39.36
K 124	28.22
K 128	18.97

If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,


Chris L. Segaffredo
Project Manager

CLS/jr

cc: Mike Whitlock (Laidlaw)
Scott Schreiber (Laidlaw)



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>Laidlaw Waste Systems</u>	Bottle	<u>Preservative</u>	<u>Tests Requested</u>
Address	<u>West lake Landfill</u>	<u>1/2 pt. pl.</u>	<u>H₂SO₄, cool</u>	<u>COD</u>
	<u>P.O. BOX 1162</u>	<u>qt. pl.</u>	<u>H₂SO₄, cool + 4C</u>	<u>pH, ROD</u>
	<u>S. Roxana, IL 62087</u>	<u>pt. pl.</u>	<u>HNO₃</u>	<u>As, Ba, Cd, Cr, Cu</u>
Contact				<u>Fe, Pb, Hg, Ni, Se, Zn</u>
Telephone	<u>(314) 739-1919</u>			
Sample Identification	<u>trtd leach</u>			
Date/Time Collected	<u>7-28-89 / 1343</u>			
Sample Type	<u>treated leachate</u>			
Collected By (Signature)	<u>[Signature]</u>	<u>3</u>	<u>Total Bottles</u>	

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 1021919
 Sample Received By (signature) [Signature] Date/Time 7/28/89 1545

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
<u>pH</u>	<u>[Signature]</u>	<u>7-28/1100</u>	<u>BA</u>	<u>Wm P Stone</u>	<u>8-9-89 1229</u>
<u>CD</u>	<u>[Signature]</u>	<u>8-1-10957</u>			
<u>ZN</u>	<u>[Signature]</u>	<u>7-31/1539</u>			
<u>CU</u>	<u>[Signature]</u>	<u>7-31/1441</u>			
<u>COD</u>	<u>[Signature]</u>	<u>8-1-89 1300</u>			
<u>PB</u>	<u>Wm P Stone</u>	<u>8-1-89 1110</u>			
<u>N</u>	<u>[Signature]</u>	<u>8-1 1300</u>			
<u>AS</u>	<u>Wm P Stone</u>	<u>8-7-31-89 0846</u>			
<u>BOD</u>	<u>[Signature]</u>	<u>7/29-8/3 1045</u>			
<u>1045</u>	<u>[Signature]</u>	<u>8-2-1300</u>			
<u>1000</u>	<u>[Signature]</u>	<u>8-3-1300</u>			
<u>BOD</u>	<u>[Signature]</u>	<u>8-3-89 1000</u>			
<u>SE</u>	<u>Wm P Stone</u>	<u>8-10-89 1155</u>			

REPORT OF ANALYSIS

Lab #1: Report No. 35470 Date: 8/11/89 Signature: [Signature]
 Title: _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



August 15, 1989

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
£10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from the Laidlaw - Bridgeton Landfill. This report is for the sample collected July 28, 1989. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



August 2, 1989

Mr. Ronald Darling
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

Dear Mr. Darling,

The following measurements were made on the leachate sumps at the Laidlaw - Bridgeton Landfill on July 28, 1989.

<u>SUMP DESIGNATION</u>	<u>DEPTH OF LIQUID, FT</u>
K 100	18.35
K 123	25.48
K 124	13.70
K 128	17.57

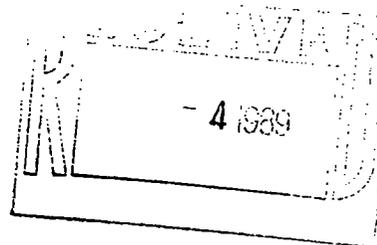
If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock (Laidlaw)
Scott Schreiber (Laidlaw)



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



MR. MIKE WHITLOCK
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

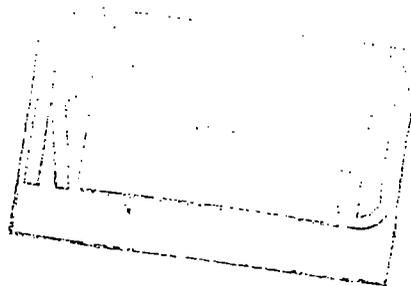
PAGE NO : 1
REPORT NO : 35538
DATE : 08/16/89
P.O. No. : 179-812

REPORT OF ANALYSIS

SUBJECT : Analysis of waste samples in accordance with SW-846: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods, 3rd Edition, 1986; where applicable.

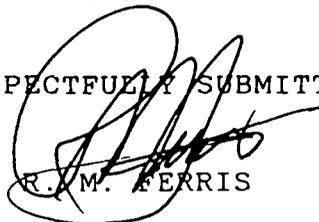
LOG NUMBER
1022803

SAMPLE DESCRIPTION
TRTD LEACHATE 8/8 C



RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


R. M. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



LIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 35538
DATE : 08/16/89

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1022803	TRTD LEACHATE 8/8 c	Arsenic	<0.005	mg As/l
		Barium	0.223	mg Ba/l
		B.O.D. (5-day)	12.0	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	47.5	mg/l
		Chromium	0.021	mg Cr/l
		Copper	0.030	mg Cu/l
		Iron	0.62	mg Fe/l
		Mercury	<0.0002	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead	0.009	mg Pb/l
		pH Value	8.36	pH Unit
		Selenium	<0.005	mg Se/l
		Technician Charges	4	man-hrs.
		Zinc	0.047	mg Zn/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	Bottle	Preservative	Tests Requested
Laidlaw Waste Systems	1/2 Pt. Plast.	H2so4, Cool	COD
Bridgeton Landfill	Qt. Plast.	Cool to 4 C	PH, BOD
13570 St. Charles Rock Rd.	Pt. Plast.	HNO3	As, Ba, Cd, Cr, Cu,
Bridgeton, MO 63044			Fe, Pb, Hg, Ni, Se,
			Zn
Contact: Mr. Mike Whitlock			
Telephone: (314) 739-1919			
Sample Identification			
Date/Time Collected: 8/8/89 0916			
Sample Type: Treated Leachate			
Collected By (Signature): <i>B. Ball</i>	3	Total Bottles	

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 10228.03
 Sample Received By (signature) *B. Ball* Date/Time 8/8/89 1116

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
BA	<i>Wm P. Stott</i>	8-9-89 1229	<i>He</i>	<i>B. Panchley</i>	8-15-89
pH	<i>Christina Tinsler</i>	8-11-89			
SE	<i>Wm P. Stott</i>	8-10-89 1155			
PB	<i>Wm P. Stott</i>	8-11-89 0823			
Zn, Cu, Fe, Mn	<i>B. Panchley</i>	8-11-89			
BOD	<i>J. M. ...</i>	8-9-89 12:00			
		8-14-89 9:30			
Cd	<i>B. Panchley</i>	8-14-89			
As	<i>K. ...</i>	8-15-89			
SE					
AS	<i>Wm P. Stott</i>	8-14-89 0902			
COD	<i>T. Tinsler</i>	8-15-89 1215			

REPORT OF ANALYSIS

Lab #1: Report No. 3553R Date: 8/16/89 Signature: *[Signature]*
 Title: _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



August 22, 1989

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from the Laidlaw - Bridgeton Landfill. This report is for the sample collected August, 1989. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber



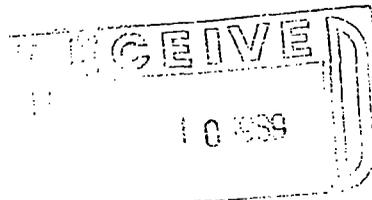
Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



August 2, 1989

Mr. Ronald Darling
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105



Dear Mr. Darling,

The following measurements were made on the leachate sumps at the Laidlaw - Bridgeton Landfill on August 8, 1989.

<u>SUMP DESIGNATION</u>	<u>DEPTH OF LIQUID, FT</u>
K 100	17.42
K 123	13.96
K 124	<1.00
K 128	17.75

If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock (Laidlaw)
Scott Schreiber (Laidlaw)



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



MR. MIKE WHITLOCK
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

PAGE NO : 1
REPORT NO : 35973
DATE : 09/19/89
P.O. No. : 189-201

REPORT OF ANALYSIS

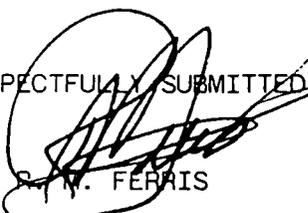
SUBJECT : Analysis of waste samples in accordance with SW-846: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods, 3rd Edition, 1986; where applicable.

LOG NUMBER
1025431

SAMPLE DESCRIPTION
TREATED LEACH. 9/6 C

RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


R. W. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



LAIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 35973
DATE : 09/19/89

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1025431	TREATED LEACH. 9/6 c	Arsenic	<0.005	mg As/l
		Barium	0.686	mg Ba/l
		B.O.D. (5-day)	<10.0	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	77.3	mg/l
		Chromium	0.008	mg Cr/l
		Copper	0.031	mg Cu/l
		Iron	0.60	mg Fe/l
		Mercury	0.0009	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead	0.005	mg Pb/l
		pH Value	8.12	pH Unit
		Selenium	<0.005	mg Se/l
		Supervisory Charges	4	man-hrs
		Technician Charges	NT	
		Zinc	0.122	mg Zn/l



Environmental Analysis, Inc.

3278 N Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>Laidlaw Waste Systems</u>	Bottle	Preservative	Tests Requested
Address	<u>Bridgeton Landfill</u>	<u>1/2 Pt. Plast.</u>	<u>H2so4, Cool</u>	<u>COD</u>
	<u>13570 St. Charles Rock Rd.</u>	<u>Qt. Plast.</u>	<u>Cool to 4 C</u>	<u>PH, BOD</u>
	<u>Bridgeton, MO 63044</u>	<u>Pt. Plast.</u>	<u>HN03</u>	<u>As, Ba, Cd, Cr, Cu,</u>
				<u>Fe, Pb, Hg, Ni, Se,</u>
				<u>Zn</u>
Contact	<u>Mr. Mike Whitlock</u>			
Telephone	<u>(314) 739-1919</u>			
Sample Identification	<u>Treated Leachate</u>			
Date/Time Collected	<u>9/16/89 1510</u>			
Sample Type	<u>Treated Leachate</u>			
Collected By (Signature)	<u>Ellis Shiblee</u>	<u>3</u>	Total Bottles	

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 1025431
 Sample Received By (signature) Ellis Shiblee Date/Time 9/16/89 1550

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
<u>As</u>	<u>T. W. Weisen</u>	<u>9-6-89 14:00</u>			
<u>Cu</u>	<u>T. W. Weisen</u>	<u>9-7-89 13:00</u>			
<u>Zn</u>	<u>T. W. Weisen</u>	<u>9-7-89 14:35</u>			
<u>FE</u>	<u>T. W. Weisen</u>	<u>9-7-89 15:24</u>			
<u>BOD</u>	<u>T. W. Weisen</u>	<u>9-6-89 16:35</u>			
<u>NI</u>	<u>T. W. Weisen</u>	<u>9-11-89 12:35</u>			
<u>PB</u>	<u>Wm Pettore</u>	<u>9-8-89 12:32</u>			
<u>CC Cd</u>	<u>B. P. Anselmi</u>	<u>9-11-89 13:21</u>			
<u>SE</u>	<u>B. P. Anselmi</u>	<u>9-12-89 13:00</u>			
<u>BA</u>	<u>Wm Pettore</u>	<u>9-13-89 11:45</u>			
	<u>B. P. Anselmi</u>	<u>9-8-89 10:16</u>			

REPORT OF ANALYSIS

Lab #1: Report No. 35973 Date: 9/19/89 Signature: [Signature]
 Title: _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. - Florissant, MO 63033 - 314-921-4488



September 20, 1989

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from the Laidlaw - Bridgeton Landfill. This report is for the sample collected in September, 1989. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



September 20, 1989

Mr. Ronald Darling
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

Dear Mr. Darling,

The following measurements were made on the leachate sumps at the Laidlaw - Bridgeton Landfill on September 6, 1989.

<u>SUMP DESIGNATION</u>	<u>DEPTH OF LIQUID, FT</u>
K 100	21.52
K 123	39.38
K 124	40.18
K 128	19.92

If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock (Laidlaw)
Scott Schreiber (Laidlaw)



10/13/29

depth of
WATER

DEPTH TO WATER

DEPTH of WELLS ↓

K-123

56.00

81.85

24.85

K-124

89.50

61.40

28.00

K-100

37.30

18.12 ~~27~~

19.00

K-128

27.63

8.37

18.5

W. oute Brook

Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



MR. MIKE WHITLOCK
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

PAGE NO : 1
REPORT NO : 36491
DATE : 11/06/89
P.O. No. : 187-882

REPORT OF ANALYSIS

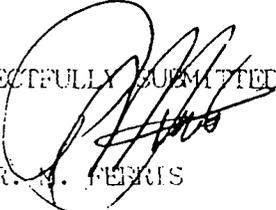
SUBJECT : Analysis of waste samples in accordance with SW-846: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods, 3rd Edition, 1986; where applicable.

LOG NUMBER
1028829

SAMPLE DESCRIPTION
TRTD LEACH 10/13/89C

RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


R. M. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



November 2, 1989

Mr. Ronald Darling
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

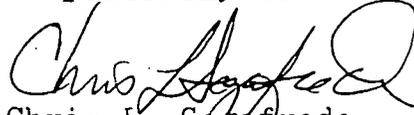
Dear Mr. Darling,

The following measurements were made on the leachate sumps at the Laidlaw - Bridgeton Landfill in October, 1989.

<u>SUMP DESIGNATION</u>	<u>DEPTH OF LIQUID, FT</u>
K 100	20.02
K 123	29.32
K 124	14.78
K 128	21.78

If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,


Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock (Laidlaw)
Scott Schreiber (Laidlaw)



Environmental Analysis, Inc.

3278 N Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>Laidlaw Waste Systems</u>	Bottle	Preservative	Tests Requested
Address	<u>Bridgeton Landfill</u>	<u>1/2 Pt. Plast.</u>	<u>H2so4, Cool</u>	<u>COD</u>
	<u>13570 St. Charles Rock Rd.</u>	<u>Qt. Plast.</u>	<u>Cool to 4 C</u>	<u>PH, BOD</u>
	<u>Bridgeton, MO 63044</u>	<u>Pt. Plast.</u>	<u>HNO3</u>	<u>As, Ba, Cd, Cr, Cu,</u>
				<u>Fe, Pb, Hg, Ni, Se,</u>
				<u>Zn</u>
Contact	<u>Mr. Mike Whitlock</u>			
Telephone	<u>(314) 739-1919</u>			
Sample Identification	<u>frtd leach</u>			
Date/Time Collected	<u>10-13-89 / 1147</u>			
Sample Type	<u>Treated Leachate</u>			
Collected By (Signature)	<u>[Signature]</u>	<u>3</u>	Total Bottles	

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 1028829
 Sample Received By (signature) [Signature] Date/Time 10-13-89 / 1224

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
<u>COD</u>	<u>[Signature]</u>	<u>10-16-89 1200</u>			
<u>Se</u>	<u>[Signature]</u>	<u>10-17-89</u>			
<u>Cu Zn</u>	<u>[Signature]</u>	<u>10-17/1436</u>			
<u>BOD</u>	<u>[Signature]</u>	<u>10-18-89 15:30</u>			
<u>PH</u>	<u>[Signature]</u>	<u>10-13/2:10</u>			
<u>Mn, Fe, Hg</u>	<u>[Signature]</u>	<u>10-18/1420</u>			
<u>Ba</u>	<u>[Signature]</u>	<u>10-20-89 3:30</u>			
<u>CD, CR</u>	<u>[Signature]</u>	<u>10-20/1150</u>			
<u>As</u>	<u>[Signature]</u>	<u>10-23-89 12:00</u>			
<u>Pb</u>	<u>[Signature]</u>	<u>11-2-89 0937</u>			

REPORT OF ANALYSIS

Lab #1: Report No. 36491 Date: 11/4/89 Signature: [Signature]
 Title: _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



LAWLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 36491
DATE : 11/06/89

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1028829	TRTD LEACH 10/13/89c	Arsenic	<0.005	mg As/l
		Barium	0.072	mg Ba/l
		B.O.D. (5-day)	<6.0	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	53.0	mg/l
		Chromium	<0.005	mg Cr/l
		Copper	<0.005	mg Cu/l
		Iron	0.52	mg Fe/l
		Mercury	<0.0002	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead	<0.005	mg Pb/l
		pH Value	7.95	pH Unit
		Selenium	<0.005	mg Se/l
		Technician Charges	4	man-hrs
		Zinc	<0.005	mg Zn/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488

November 2, 1989



Mr. John Lodderhose
St. Louis Metropolitan Sewer District
£10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from the Laidlaw - Bridgeton Landfill. This report is for the sample collected on October 13, 1989. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted

A handwritten signature in cursive script, appearing to read 'Chris Segafredo'.

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



LIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 37762
DATE : 02/27/90

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1110119	TRTD LEACH 2/19/90 c	Arsenic	<0.005	mg As/l
		Barium	0.82	mg Ba/l
		B.O.D. (5-day)	105	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	197	mg/l
		Chromium	0.008	mg Cr/l
		Copper	0.009	mg Cu/l
		Iron	7.90	mg Fe/l
		Mercury	0.0006	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead	<0.005	mg Pb/l
		pH Value	7.46	pH Unit
		Selenium	<0.005	mg Se/l
		Supervisory Charges	3	man-hrs
		Technician Charges	3	man-hrs
		Zinc	0.147	mg Zn/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



LIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 37762
DATE : 02/27/90

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1110119	TRTD LEACH 2/19/90 c	Arsenic	<0.005	mg As/l
		Barium	0.82	mg Ba/l
		B.O.D. (5-day)	105	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	197	mg/l
		Chromium	0.008	mg Cr/l
		Copper	0.009	mg Cu/l
		Iron	7.90	mg Fe/l
		Mercury	0.0006	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead	<0.005	mg Pb/l
		pH Value	7.46	pH Unit
		Selenium	<0.005	mg Se/l
		Supervisory Charges	3	man-hrs
		Technician Charges	3	man-hrs
		Zinc	0.147	mg Zn/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	Laidlaw Waste Systems	Bottle	Preservative	Tests Requested
Address	Bridgeton Landfill 13570 St. Charles Rock Rd. Bridgeton, MO 63044	1/2 Pt. Plast. Qt. Plast. Pt. Plast.	H2so4, Cool Cool to 4 C HN03	COD PH, BOD As, Ba, Cd, Cr, Cu, Fe, Pb, Hg, Ni, Se, Zn
Contact	Mr. Mike Whitlock			
Telephone	(314) 739-1919			
Sample Identification	<i>trtd leach</i>			
Date/Time Collected	<i>2-19-90 / 1209</i>			
Sample Type	<i>Treated Leachate</i>			
Collected By (Signature)	<i>[Signature]</i>	3	Total Bottles	

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 1110119
 Sample Received By (signature) *[Signature]* Date/Time 2/19/90

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
B.A	<i>Winkstott</i>	<i>2-20-90 1023</i>	cd	<i>[Signature]</i>	<i>2-22 2:10</i>
AS	<i>Winkstott</i>	<i>2-21-90 0737</i>	Hg	<i>[Signature]</i>	<i>2-23 12:30</i>
Cu, Zn	<i>[Signature]</i>	<i>2-20 2:48</i>			
SE	<i>Winkstott</i>	<i>2-21-90 1022</i>			
Ni, Cr	<i>[Signature]</i>	<i>2-22 3:11</i>			
Pb	<i>Winkstott</i>	<i>2-22-90 0757</i>			
pH	<i>[Signature]</i>	<i>2-19/400</i>			
Fe	<i>[Signature]</i>	<i>2-23 9:21</i>			
COD	<i>[Signature]</i>	<i>2-22-90 11:00</i>			
BOD	<i>[Signature]</i>	<i>2-19-90 16:30</i>			
"	<i>"</i>	<i>Zn: 2-24-90 14:30</i>			

REPORT OF ANALYSIS

Lab #1: Report No. 37762 Date: 2/27/90 Signature: *[Signature]*
 Title: _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488

February 28, 1990

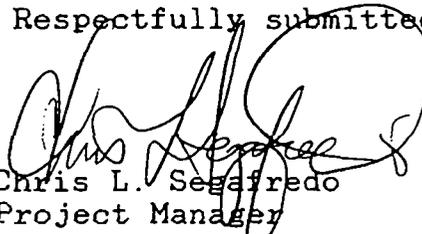


Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from the Laidlaw - Bridgeton Landfill. This report is for the sample collected in February, 1990. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted



Chris L. Segarredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



February 28, 1990

Mr. Ronald Darling
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

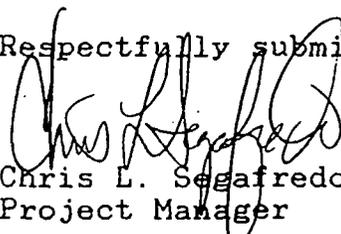
Dear Mr. Darling,

The following measurements were made on the leachate sumps at the Laidlaw - Bridgeton Landfill on February 19, 1990.

<u>SUMP DESIGNATION</u>	<u>DEPTH OF LIQUID, FT</u>
K 100	21.00
K 123	Dry
K 124	14.77
K 128	24.40

If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,


Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock (Laidlaw)
Scott Schreiber (Laidlaw)



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



MR. MIKE WHITLOCK
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

PAGE NO : 1
REPORT NO : 37915
DATE : 03/12/90
P.O. No. : 214132

REPORT OF ANALYSIS

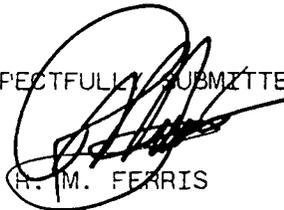
SUBJECT : Analysis of waste samples in accordance with SW-846: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods, 3rd Edition, 1986; where applicable.

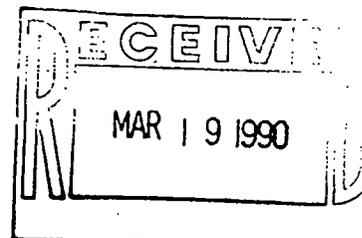
LOG NUMBER
1111211

SAMPLE DESCRIPTION
TRTD LEACH 3/2/90 C

RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


H. M. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



LAIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 37915
DATE : 03/12/90

RESULTS OF ANALYSIS

LCG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1111211	TRTD LEACH 3/2/90 c	Arsenic	<0.005	mg As/l
		Barium	0.36	mg Ba/l
		B.O.D. (5-day)	78.6	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	109	mg/l
		Chromium	0.005	mg Cr/l
		Copper	0.072	mg Cu/l
		Iron	2.78	mg Fe/l
		Mercury	0.0017	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead	0.018	mg Pb/l
		pH Value	7.52	pH Unit
		Selenium	<0.005	mg Se/l
		Supervisory Charges	4	man-hrs
		Technician Charges	4	man-hrs
		Zinc	0.106	mg Zn/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	Bottle	Preservative	Tests Requested
Laidlaw Waste Systems	1/2 Pt. Plast.	H2so4, Cool	COD
Bridgeton Landfill	Qt. Plast.	Cool to 4 C	PH, BOD
13570 St. Charles Rock Rd.	Pt. Plast.	HNO3	As, Ba, Cd, Cr, Cu,
Bridgeton, MO 63044			Fe, Pb, Hg, Ni, Se,
			Zn
Contact: Mr. Mike Whitlock			
Telephone: (314) 739-1919			
Sample Identification: <i>trtd leach</i>			
Date/Time Collected: <i>2/2/90 1338</i>			
Sample Type: <i>Treated Leachate</i>			
Collected By (Signature): <i>[Signature]</i>	3	Total Bottles	

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 111211
 Sample Received By (signature) *[Signature]* Date/Time 3/2/90 1515

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
<i>pH</i>	<i>[Signature]</i>	<i>3/2/90 1518</i>			
<i>Cr, Fe</i>	<i>[Signature]</i>	<i>3-3 11:38</i>			
<i>AS</i>	<i>Wm Stone</i>	<i>3-5-90 0831</i>			
<i>SE</i>	<i>Wm Stone</i>	<i>3-5-90 1240</i>			
<i>Cu, Zn</i>	<i>[Signature]</i>	<i>3-5 4:00</i>			
<i>Ni</i>	<i>[Signature]</i>	<i>3-6 9:50</i>			
<i>PB</i>	<i>Wm Stone</i>	<i>3-7-90 1133</i>			
<i>BOD</i>	<i>[Signature]</i>	<i>3-2-90 1530</i>			
<i>"</i>	<i>"</i>	<i>3-7-90 13:00</i>			
<i>Hg</i>	<i>[Signature]</i>	<i>3-7 17:00</i>			
<i>COD</i>	<i>[Signature]</i>	<i>3-9-90 12:30</i>			
<i>BA</i>	<i>Wm Stone</i>	<i>3-6-90 0751</i>			

REPORT OF ANALYSIS

Lab #1: Report No. 37915 Date: 3/12/90 Signature: *[Signature]*
 Title: _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



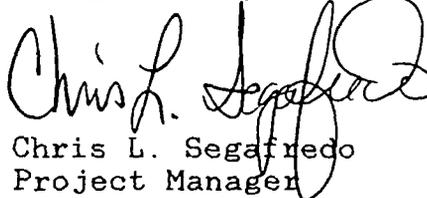
March 14, 1990

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from the Laidlaw - Bridgeton Landfill. This report is for the sample collected on March 2, 1990. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted


Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



March 14, 1990

Mr. Ronald Darling
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

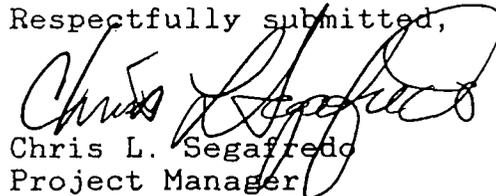
Dear Mr. Darling,

The following measurements were made on the leachate sumps at the Laidlaw - Bridgeton Landfill on March 2, 1990.

<u>SUMP DESIGNATION</u>	<u>DEPTH OF LIQUID, FT</u>
K 100	11.22
K 123	Dry
K 124	14.47
K 128	19.84

If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,



Chris L. Segaffredo
Project Manager

CLS/jr

cc: Mike Whitlock (Laidlaw)
Scott Schreiber (Laidlaw)



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



MR. MIKE WHITLOCK
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

PAGE NO : 1
REPORT NO : 38719
DATE : 05/23/90
P.O. No. : 214382

REPORT OF ANALYSIS

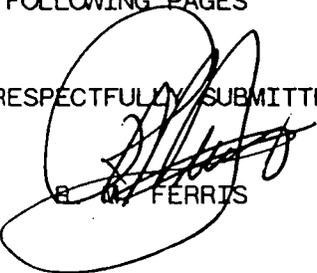
SUBJECT : Analysis of waste samples in accordance with SW-846: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods, 3rd Edition, 1986; where applicable.

LOG NUMBER
1116921

SAMPLE DESCRIPTION
TRTD LEACH 4/30/90 C

RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


B. W. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



LAIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 38719
DATE : 05/23/90

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1116921	TRTD LEACH 4/30/90 c	Arsenic	<0.005	mg As/l
		Barium	<0.7	mg Ba/l
		B.O.D. (5-day)	127	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	234	mg/l
		Chromium	0.009	mg Cr/l
		Copper	0.077	mg Cu/l
		Iron	1.18	mg Fe/l
		Mercury	0.0008	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead	<0.005	mg Pb/l
		pH Value	7.94	pH Unit
		Selenium	<0.005	mg Se/l
		Technician Charges	4	man-hrs
		Zinc	0.077	mg Zn/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>Laidlaw Waste Systems</u>	Bottle	<u>1/2 Pt. Plast.</u>	Preservative	<u>H2SO4, Cool</u>	Tests Requested	<u>COD</u>
Address	<u>Westlake Landfill</u>	<u>1/2 Pt. Plast.</u>	<u>1/2 Pt. Plast.</u>	<u>H2SO4, Cool</u>	<u>Cool</u>	<u>BOD, pH</u>	<u>As, Ba, Cd, Cr, Cu, Fe</u>
	<u>P. O. Box 1162</u>	<u>Qt. Plast.</u>	<u>Qt. Plast.</u>	<u>Cool</u>	<u>Cool</u>	<u>BOD, pH</u>	<u>Pb, Hg, Ni, Se, Zn</u>
	<u>S. Roxana, IL 62087</u>	<u>Pt. Plast.</u>	<u>Pt. Plast.</u>	<u>HNO3</u>	<u>HNO3</u>		
Contact	<u>Mr. Mike Whitlock</u>						
Telephone	<u>(314) 739-1919</u>						
Sample Identification	<u>trtd leach 4/30/90</u>						
Date/Time Collected	<u>4-30-90 / 1400</u>						
Sample Type	<u>Treated Leachate</u>						
Collected By (Signature)	<u>[Signature]</u>	<u>3</u>		Total Bottles			

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 1116921
 Sample Received By (signature) [Signature] Date/Time 4-30-90 / 1430

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
<u>pH</u>	<u>[Signature]</u>	<u>4-30/30</u>			
<u>COD</u>	<u>M. Kothary</u>	<u>5-3/10:00</u>			
<u>Cd</u>	<u>[Signature]</u>	<u>5-2 11:05</u>			
<u>Cr</u>	<u>[Signature]</u>	<u>5-3 7:32</u>			
<u>BOD</u>	<u>M. Kothary</u>	<u>4-30/2:30</u>			
<u>Fe</u>	<u>[Signature]</u>	<u>5-4 2:30</u>			
<u>Ba, Cu</u>	<u>[Signature]</u>	<u>5-7 12:15</u>			
<u>Zn, Ni</u>	<u>[Signature]</u>	<u>5-8 8:05</u>			
<u>Pb</u>	<u>Wm P. Stork</u>	<u>5-9-90 0830</u>			
<u>SE</u>	<u>Wm P. Stork</u>	<u>5-10-90 0827</u>			
<u>AS</u>	<u>Wm P. Stork</u>	<u>5-17-90 1539</u>			
<u>Hg</u>	<u>[Signature]</u>	<u>5-18-90 1030</u>			

REPORT OF ANALYSIS

Lab #1: Report No. 38719 Date: 5/23/90 Signature: [Signature]
 Title: _____
 Lab #2: Report No. _____ Date: _____ Signature: _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



May 31, 1990

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from the Laidlaw - Bridgeton Landfill. This report is for the sample collected in April, 1990. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted

A handwritten signature in black ink, appearing to read 'Chris L. Segafredo', written over a circular stamp or mark.

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber
Miles Stotts



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



May 31, 1990

Mr. Ronald Darling
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

Dear Mr. Darling,

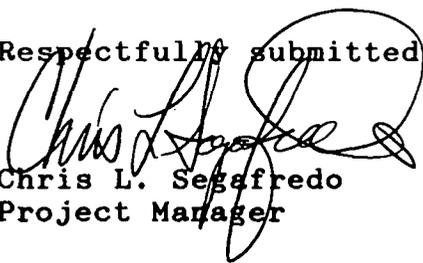
The following measurements were made on the leachate sumps at the Laidlaw - Bridgeton Landfill on April 30, 1990.

<u>SUMP DESIGNATION</u>	<u>DEPTH OF LIQUID, FT</u>
K 100	23.62
K 123	Dry
K 124	42.10*
K 128	22.59

* Pump broken, level cannot be pumped down until pump is repaired.

If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,


Chris L. Segaffredo
Project Manager

CLS/jr

cc: Mike Whitlock (Laidlaw)
Scott Schreiber (Laidlaw)
Miles Stotts (Laidlaw)



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



MR. MIKE WHITLOCK
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

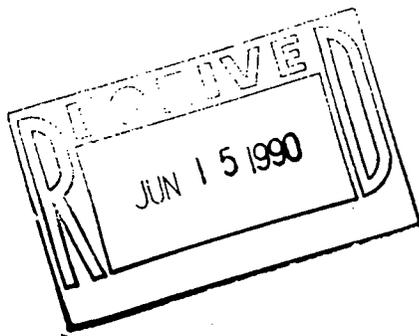
PAGE NO : 1
REPORT NO : 38868
DATE : 06/04/90
P.O. No. : 214468

REPORT OF ANALYSIS

SUBJECT : Analysis of waste samples in accordance with SW-846: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods, 3rd Edition, 1986; where applicable.

LOG NUMBER
1118511

SAMPLE DESCRIPTION
TRTD LEACH 5/15/90 C



RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


R. M. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



LAIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 38868
DATE : 06/04/90

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1118511	TRTD LEACH 5/15/90 c	Arsenic	0.008	mg As/l
		Barium	<0.7	mg Ba/l
		B.O.D. (5-day)	75.6	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	290	mg/l
		Chromium	0.029	mg Cr/l
		Copper	12.6	mg Cu/l
		Iron	19.5	mg Fe/l
		Mercury	<0.0002	mg Hg/l
		Nickel	0.05	mg Ni/l
		Lead	0.115	mg Pb/l
		pH Value	7.76	pH Unit
		Selenium	<0.005	mg Se/l
		Supervisory Charges	2	man-hrs
		Technician Charges	2	man-hrs
		Zinc	2.07	mg Zn/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>Laidlaw Waste System</u>	Bottle	<u>Preservative</u>	<u>Tests Requested</u>
Address	<u>Bridgeton Landfill</u>	<u>1 Qt. Pl.</u>	<u>cool to 4°C</u>	<u>BOD, PH</u>
	<u>13570 St Charles Road</u>	<u>1/2 Pt. Pl.</u>	<u>H₂SO₄, cool</u>	<u>Metals CO₂</u>
	<u>Bridgeton MO</u>	<u>1 Pt. Pl.</u>	<u>HNO₃</u>	<u>Metals</u>
Contact	<u>Mr. Mike Whitlock</u>			
Telephone	<u>(314) 739-1919</u>			
Sample Identification	<u>Treated Leachate</u>			
Date/Time Collected	<u>5/15/90 1230</u>			
Sample Type	<u>Treated Leachate</u>			
Collected By (Signature)	<u>[Signature]</u>	<u>3</u>	<u>Total Bottles</u>	

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 1118511
 Sample Received By (signature) [Signature] Date/Time 5/15/90 1315

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
<u>SE</u>	<u>[Signature]</u>	<u>5-16-90 1120</u>	<u>Ba</u>	<u>[Signature]</u>	<u>5-23 8:45</u>
<u>PH</u>	<u>[Signature]</u>	<u>5-15-90 1600</u>	<u>Hg</u>	<u>[Signature]</u>	<u>5-1 12:45</u>
<u>Cu, Zn</u>	<u>[Signature]</u>	<u>5-18 2:30</u>			
<u>Si, Cd, Cr, Fe</u>	<u>[Signature]</u>	<u>5-21 10:40</u>			
<u>AS</u>	<u>[Signature]</u>	<u>5-18-90 1404</u>			
<u>BOD</u>	<u>[Signature]</u>	<u>5-16-90/12:00</u>			
<u>CO₂</u>	<u>[Signature]</u>	<u>5-22-90/2:00</u>			
<u>PB</u>	<u>[Signature]</u>	<u>5-23-90 0917</u>			

Lab #2 - _____ Laboratory Log Number _____
 Sample Received By (signature) _____ Date/Time _____

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed

REPORT OF ANALYSIS

Lab #1: Report No. 38868 Date: 6/4/90 Signature: [Signature]
 Title: _____
 Lab #2: Report No. _____ Date: _____ Signature: _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



June 5, 1990

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

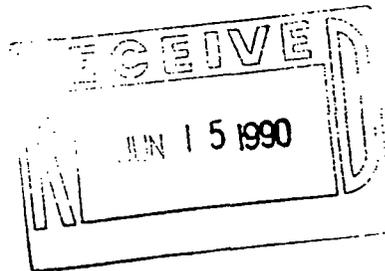
The enclosed laboratory report represents the analysis of treated leachate from the Laidlaw - Bridgeton Landfill. This report is for the sample collected in May, 1990. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted

Chris L. Segaffredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber
Miles Stotts



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. - Florissant, MO 63033 - 314-921-4488



June 5, 1990

Mr. Ronald Darling
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

Dear Mr. Darling,

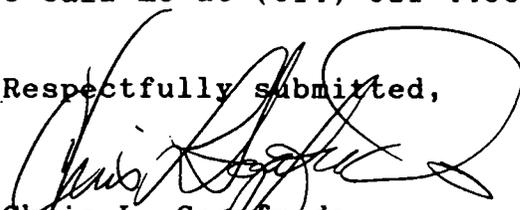
The following measurements were made on the leachate sumps at the Laidlaw - Bridgeton Landfill on May 31, 1990.

<u>SUMP DESIGNATION</u>	<u>DEPTH OF LIQUID, FT</u>
K 100	26.67
K 123	Dry
K 124	47.58*
K 128	24.85

* Pump broken, level cannot be pumped down until pump is repaired.

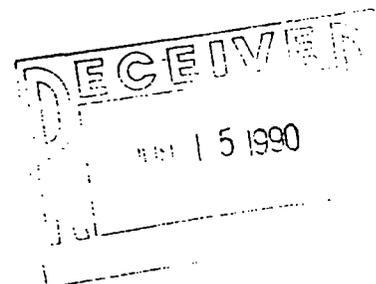
If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,


Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock (Laidlaw)
Scott Schreiber (Laidlaw)
Miles Stotts (Laidlaw)



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



MR. MIKE WHITLOCK
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

PAGE NO : 1
REPORT NO : 39302
DATE : 07/09/90
P.O. No. : 214669

REPORT OF ANALYSIS

SUBJECT : Analysis of waste samples in accordance with SW-846: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods, 3rd Edition, 1986; where applicable.

LOG NUMBER	SAMPLE DESCRIPTION
1122715	TRTD-LEACH 6/21/90 C

RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED

A handwritten signature in black ink, appearing to read 'R. M. Ferris', is written over a circular stamp. The signature is fluid and cursive.

R. M. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



LAWDIAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 39302
DATE : 07/09/90

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1122715	TRTD-LEACH 6/21/90 c	Arsenic	0.007	mg As/l
		Barium	<0.7	mg Ba/l
		B.O.D. (5-day)	176	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	342	mg/l
		Chromium	0.017	mg Cr/l
		Copper	0.131	mg Cu/l
		Iron	0.76	mg Fe/l
		Mercury	<0.0002	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead	0.006	mg Pb/l
		pH Value	8.19	pH Unit
		Selenium	<0.005	mg Se/l
		Technician Charges	2	man-hrs
		Zinc	0.047	mg Zn/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>Laidlaw Waste Systems</u>	Bottle	<u>1/2 Pt. Plast.</u>	Preservative	<u>H2so4, Cool</u>	Tests Requested	<u>COD</u>
Address	<u>Bridgeton Landfill</u>	<u>1/2 Pt. Plast.</u>	<u>1/2 Pt. Plast.</u>	<u>H2so4, Cool</u>	<u>Cool to 4 C</u>	<u>PH, BOD</u>	<u>As, Ba, Cd, Cr, Cu,</u>
	<u>13570 St. Charles Rock Rd.</u>	<u>Qt. Plast.</u>	<u>Qt. Plast.</u>	<u>Cool to 4 C</u>	<u>Cool to 4 C</u>	<u>As, Ba, Cd, Cr, Cu,</u>	<u>Fe, Pb, Hg, Ni, Se,</u>
	<u>Bridgeton, MO 63044</u>	<u>Pt. Plast.</u>	<u>Pt. Plast.</u>	<u>HN03</u>	<u>HN03</u>	<u>Fe, Pb, Hg, Ni, Se,</u>	<u>Zn</u>
Contact	<u>Mr. Mike Whitlock</u>						
Telephone	<u>(314) 739-1919</u>						
Sample Identification	<u>Treated Leachate</u>						
Date/Time Collected	<u>6/21/90</u>	<u>1345</u>					
Sample Type	<u>Treated Leachate</u>						
Collected By (Signature)	<u>J. Ahmed</u>	<u>3</u>		Total Bottles			

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 1122715
 Sample Received By (signature) J. Ahmed Date/Time 6/21/90 1530

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
<u>pH</u>	<u>J. Ahmed</u>	<u>6-21/500</u>			
<u>COD</u>	<u>M. Kolhou</u>	<u>6-26-10:00</u>			
<u>AS</u>	<u>Wm. B. Stone</u>	<u>6-26-90 0826</u>			
<u>Cu, Zn, Cd</u>	<u>B. B. Stone</u>	<u>6-25 1:01</u>			
<u>Cr</u>	<u>B. B. Stone</u>	<u>6-26 7:00</u>			
<u>BOD</u>	<u>M. Kolhou</u>	<u>6-22/12:00</u>			
<u>PB</u>	<u>Wm. B. Stone</u>	<u>6-27-90 1448</u>			
<u>SE</u>	<u>Wm. B. Stone</u>	<u>6-27-90 0849</u>			
<u>Ni</u>	<u>B. B. Stone</u>	<u>6-27 8:55</u>			
<u>Hg</u>	<u>B. B. Stone</u>	<u>7-3 1:09</u>			
<u>Fe</u>	<u>B. B. Stone</u>	<u>7-5 10:40</u>			
<u>Ba</u>	<u>B. B. Stone</u>	<u>7-9 1:42</u>			

REPORT OF ANALYSIS

Lab #1: Report No. 39302 Date: 7/9/90 Signature: [Signature]
 Title: _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



July 23, 1990

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from the Laidlaw - Bridgeton Landfill. This report is for the sample collected in June, 1990. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted



Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber
Miles Stotts



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



July 23, 1990

Mr. Ronald Darling
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

Dear Mr. Darling,

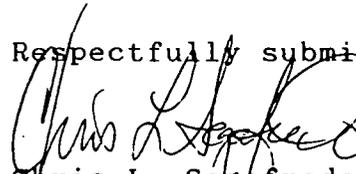
The following measurements were made on the leachate sumps at the Laidlaw - Bridgeton Landfill on June 29, 1990.

<u>SUMP DESIGNATION</u>	<u>DEPTH OF LIQUID, FT</u>
K 100	27.02
K 123	Dry
K 124	48.57*
K 128	24.54

* Pump broken, level cannot be pumped down until pump is repaired.

If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,


Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock (Laidlaw)
Scott Schreiber (Laidlaw)
Miles Stotts (Laidlaw)



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



MR. MIKE WHITLOCK
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

PAGE NO : 1
REPORT NO : 39506
DATE : 07/25/90
P.O. No. : 214668

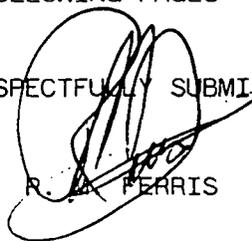
REPORT OF ANALYSIS

SUBJECT : Analysis of waste samples in accordance with SW-846: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods, 3rd Edition, 1986; where applicable.

LOG NUMBER	SAMPLE DESCRIPTION
1122724	FLARE COND 6/21 CR
Z122724	FLARE COND 6/21 CR

RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


R. A. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



LAIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 39506
DATE : 07/25/90

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1122724	FLARE COND 6/21 cr	TCLP EXTRACTION	Vol. 55, #61	Fed. Reg
		TCLP SEMI-VOLATILES	1	
		2,4,5-TRICHLOROPHENOL	<0.50	mg/l
		2,4,6-TRICHLOROPHENOL	<0.10	mg/l
		CRESOL	13.6	mg/l
		1,4-DICHLOROBENZENE	<0.10	mg/l
		2,4-DINITROTOLUENE	<0.10	mg/l
		HEXACHLOROBUTADIENE	<0.10	mg/l
		HEXACHLOROBENZENE	<0.10	mg/l
		HEXACHLOROETHANE	<0.10	mg/l
		m-CRESOL	<0.10	mg/l
		NITROBENZENE	<0.10	mg/l
		o-CRESOL	2.1	mg/l
		PENTACHLOROPHENOL	<0.50	mg/l
		p-CRESOL	11.5	mg/l
		PYRIDINE	<1.0	mg/l
		TCLP METALS	1	
		TCLP Silver	<0.005	mg Ag/l
		TCLP Arsenic	0.258	mg As/l
		TCLP Barium	<1.1	mg Ba/l
		TCLP Cadmium	<0.010	mg Cd/l
		TCLP Chromium	0.076	mg Cr/l
		TCLP Mercury	<0.0005	mg Hg/l
		TCLP Lead	0.006	mg Pb/l
		TCLP Selenium	<0.005	mg Se/l
		TCLP HERBICIDES	1	
		2,4-D	<0.0025	mg/l
		2,4,5-TP (SILVEX)	<0.0025	mg/l
		TCLP PESTICIDES	1	
		CHLORDANE	<0.0008	mg/l
		ENDRIN	<0.00008	mg/l
		HEPTACHLOR	<0.00008	mg/l
		HEPTACHLOR HYDROXIDE	<0.00008	mg/l
		LINDANE	<0.00008	mg/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



LIDLAW WASTE SYSTEM

PAGE NO : 3
REPORT NO : 39506
DATE : 07/25/90

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1122724	FLARE COND 6/21 cr	METHOXYCHLOR	<0.0015	mg/l
		TOXAPHENE	<0.0016	mg/l
		Supervisory Charges	2	man-hrs
		Technician Charges	1	man-hrs
Z122724	FLARE COND 6/21 cr	ZERO HEADSPACE EXT.	1	
		ZERO HEADSPACE VOLS.	1	
		BENZENE	<0.05	mg/l
		CHLOROBENZENE	<0.05	mg/l
		CHLOROFORM	<0.05	mg/l
		CARBON TETRACHLORIDE	<0.05	mg/l
		1,2-DICHLOROETHANE	<0.05	mg/l
		1,1-DICHLOROETHYLENE	<0.05	mg/l
		METHYL ETHYL KETONE	20	mg/l
		TETRACHLOROETHYLENE	<0.05	mg/l
		TRICHLOROETHYLENE	<0.05	mg/l
		VINYL CHLORIDE	<0.10	mg/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>Laidlaw Waste Systems</u>	Bottle	<u>6 x 100 ml</u>	Preservative	<u>Amb. Cool to 4°C</u>	Tests Requested	<u>TCLP</u>
Address	<u>Bridgeton Landfill 13570 St. Charles Rock Rd. Bridgeton, MO 63044</u>						
Contact	<u>MR. MIKE WHITLOCK</u>						
Telephone	<u>(314) 739-1919</u>						
Sample Identification	<u>Flare Unit Condensate</u>						
Date/Time Collected	<u>6/21/90 1330</u>						
Sample Type	<u>Leachate</u>						
Collected By (Signature)	<u>D. Ahmed</u>	<u>6</u>				Total Bottles	

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 1122724

Sample Received By (signature) D. Ahmed Date/Time 6/21/90 1630

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
TCLP Ag	<u>Wm R. Storn</u>	<u>7-12-90 1104</u>			
TCLP AS	<u>Wm R. Storn</u>	<u>7-10-90 1519</u>			
TCLP Pb	<u>Wm R. Storn</u>	<u>7-13-90 0834</u>			
TCLP Se	<u>Wm R. Storn</u>	<u>7-11-90 1340</u>			
ZHE EX	<u>Wm R. Storn</u>	<u>6-28-90 1220</u>			
TCLP Hg	<u>Gregory J. Schmitt</u>	<u>6-29 10:08</u>			
TCLP Cd, TELP Cr	<u>Gregory J. Schmitt</u>	<u>7-2 1:00</u>			
TCLP Ba	<u>Gregory J. Schmitt</u>	<u>7-9 1:42</u>			
TH HB	<u>Gregory J. Schmitt</u>	<u>7-11-90</u>			
TP PS	<u>Gregory J. Schmitt</u>	<u>7-12-90</u>			
TP SV	<u>Gregory J. Schmitt</u>	<u>7-5 1443</u>			
ZHE VL	<u>Kroner</u>	<u>7-24 1254</u>			

Lab #1: Report No. 39506 Date: 7/25/90 Signature: [Signature]
 Title: _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



MR. MIKE WHITLOCK
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

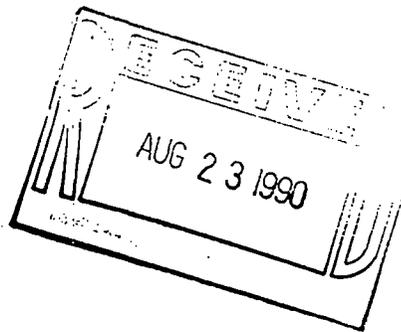
PAGE NO : 1
REPORT NO : 39742
DATE : 08/16/90
P.O. No. : 214801

REPORT OF ANALYSIS

SUBJECT : Analysis of water and/or wastewater samples in accordance with Standard Methods for the Examination of Water and Wastewater, 16th Edition, 1985.

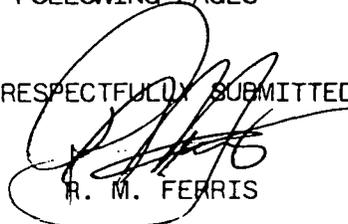
LOG NUMBER
1126023

SAMPLE DESCRIPTION
TRTD LEACH 7/27/90 C



RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


R. M. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



LIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 39742
DATE : 08/16/90

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1126023	TRTD LEACH 7/27/90 c	Arsenic	<0.005	mg As/l
		Barium	<0.7	mg Ba/l
		B.O.D. (5-day)	176	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	385	mg/l
		Chromium	0.234	mg Cr/l
		Copper	0.023	mg Cu/l
		Iron	1.78	mg Fe/l
		Mercury	<0.0002	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead	0.072	mg Pb/l
		pH Value	7.57	pH Unit
		Selenium	<0.005	mg Se/l
		Technician Charges	5	man-hrs
		Zinc	0.038	mg Zn/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>Caidlaw Waste Systems</u>	Bottle	<u>1/2 pt. pl.</u>	Preservative	<u>H₂SO₄, cool</u>	Tests Requested	<u>COD</u>
Address	<u>Bridgeton Landfill</u> <u>13575 St. Charles Rock Rd</u> <u>Bridgeton, Mo 63044</u>		<u>pt. pl.</u>		<u>HNO₃</u>	<u>As, Ba, Cd, Cr,</u> <u>Cu, Fe, Pb, Hg,</u> <u>Ni, Se, Zn</u>	<u>pH BOD</u>
Contact	<u>Mr. Mike Whiteflock</u>		<u>8 pt. pl.</u>		<u>Cool to 4C</u>		
Telephone	<u>(314) 739-1919</u>						
Sample Identification	<u>trtd leach 7/27c</u>						
Date/Time Collected	<u>7-27-90 / 1340</u>						
Sample Type	<u>treated leachate</u>						
Collected By (Signature)	<u>[Signature]</u>	<u>3</u>		Total Bottles			

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 1126023

Sample Received By (signature) [Signature] **Date/Time** 7-27-90 / 1500

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
<u>pH</u>	<u>[Signature]</u>	<u>7-27/1500</u>			
<u>BOD</u>	<u>[Signature]</u>	<u>7-27 12:00</u>			
<u>Fe</u>	<u>[Signature]</u>	<u>8-6 4:00</u>			
<u>Zn</u>	<u>[Signature]</u>	<u>8-2/1055</u>			
<u>CR</u>	<u>[Signature]</u>	<u>8-2/1409</u>			
<u>Cu</u>	<u>[Signature]</u>	<u>8-3/1053</u>			
<u>NI</u>	<u>[Signature]</u>	<u>8-3/1221</u>			
<u>CD</u>	<u>[Signature]</u>	<u>8-2/1300</u>			
<u>Hg</u>	<u>[Signature]</u>	<u>8-7 1:29</u>			
<u>Ba</u>	<u>[Signature]</u>	<u>8-8 2:16</u>			
<u>COD</u>	<u>[Signature]</u>	<u>8-2 2:00</u>			
<u>PE-AS</u>	<u>[Signature]</u>	<u>8-13-90 1134</u>			
<u>SE</u>	<u>[Signature]</u>	<u>8-14-90 1313</u>			
<u>AS PB</u>	<u>[Signature]</u>	<u>8-15-90 0731</u>			

REPORT OF ANALYSIS

Lab #1: Report No. 39742 **Date:** 8/16/90 **Signature:** [Signature]
Title: _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



August 21, 1990

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from the Laidlaw - Bridgeton Landfill. This report is for the sample collected in July, 1990. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber
Miles Stotts



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



August 15, 1990

Mr. Ronald Darling
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

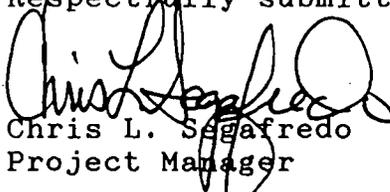
Dear Mr. Darling,

The following measurements were made on the leachate sumps at the Laidlaw - Bridgeton Landfill on July 20, 1990.

<u>SUMP DESIGNATION</u>	<u>DEPTH OF LIQUID, FT</u>
K 100	18.38
K 123	Dry
K 124	17.37
K 128	24.36

If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,


Chris L. Sagafredo
Project Manager

CLS/jr

cc: Mike Whitlock (Laidlaw)
Scott Schreiber (Laidlaw)
Miles Stotts (Laidlaw)



Engineers
Architects
Planners
Scientists

Foth & Van Dyke

11970 Borman Drive, Suite 110
St. Louis, MO 63146
314/434-5700
FAX: 314/434-7071

89L46

August 23, 1990

Mr. Miles Stotts
Laidlaw Waste Systems, Inc.
P.O. Box 97
Roxana, IL 62084-0097

Dear Mr. Stotts:

RE: Water Balance
Laidlaw Waste Systems, Inc.
Bridgeton Landfill

INTRODUCTION

The purpose of this letter is to present the results of the water balance evaluation at the Laidlaw Waste Systems, Inc., Bridgeton Landfill. Surface water, groundwater and direct precipitation introduce water the active fill area at the Bridgeton Landfill. However, refuse absorbs water and thereby decreases the amount of water available to form leachate. The leachate produced is removed by pumping from the landfill bottom. The water balance evaluation was conducted for the period of September 1989 through June 1990.

EVALUATION

Outflow

The amount of leachate pumped during the ten-month evaluation period was 89,678,000 gallons. This information was provided by Mr. Mike Whitlock from Laidlaw's monthly pumping records. The monthly totals of leachate pumped are provided in Attachment A.

Precipitation

Climatological data from Lambert Field which is located approximately four miles east of the landfill was used for the evaluation. For the evaluation period, a total of 27.21 inches of precipitation was recorded at Lambert Field. Since the active landfill site is approximately 33 acres in size, a total of 24,500,000 gallons of precipitation fell on the landfill area. The monthly precipitation totals are provided in Attachment B.

Observed Groundwater Inflow

Inflow from the seeps through the quarry walls was estimated based upon the information of the pressure grouting project and the preliminary results of the quarry wall mapping. On November 8, 1989, six seeps were identified and flows from these seeps were estimated as follows:

<u>Seeps</u>	<u>Approximate Flow (Gal/Hr)</u>
Shallow	120
#1	120
#2	900
#3	60
#4	<30
#5	450

For the purpose of this evaluation, a value of 30 gallons per hour was assumed for Seep #4. Thus, the total flow from these 6 seeps is estimated as 1680 gallons per hour.

Based upon the preliminary quarry wall mapping information, 25 additional solution features were identified. Of these 25 solution features, only nine solution features were flowing. Assuming a flow of 30 gallons per hour for each flowing seep, another 270 gallons per hour is estimated. Therefore, the total groundwater seepage into the landfill quarry is 1950 gallons per hour, (46,800 galls per day or 1,400,000 galls per month) The calculations for the observed groundwater inflow are provide in Attachment C.

Unobserved Groundwater Inflow

Approximately one-sixth of the quarry walls is covered with refuse including the quarry wall crack on the east corner of the quarry. The "crack" reportedly produced 100 gallons per minute, prior to pressure grouting in 1985. This unobserved groundwater inflow is the unknown variable in the water balance equation.

Runoff-Eastern Area

The field to the east of the former quarry drains to the west, along Old St. Charles Rock Road and then into the landfill. The size of the eastern drainage area is approximately 29 acres.

According to the St. Louis County soil Survey, two soil groups are present in the eastern area: Menfro and Freeberg. The Urban Hydrology for Small Watersheds - Technical Release No.55 was used to identify the classifications of these soils. These classifications were used to obtain curve number (CNs) in order to calculate the runoff from the eastern area. The climatologic data form Lambert Field was used for precipitation amounts. Based upon the above information, the amount of runoff from the eastern area for the evaluation period was 2,030,000 gallons. The eastern area calculations are provided in Attachment D.

Runoff - On-Site

The asphalt and concrete plant areas and parts of the closed western landfill area produce runoff which enters the active landfill area. The size of the on-site area is approximately 37 acres.

From The Urban Hydrology for Small Watersheds - Technical Release No.55, CNs for the plant areas and landfill cover were selected - 85 and 70, respectively with an average CN of 78. The climatologic data form Lambert Field was used for the precipitation amounts. Based upon the above information, the amount of runoff from the on-site areas was 2,220,000 gallons. The on-site areas calculations are provided in Attachment D.

Leachate Storage

A leachate pool is located along the western portion of the unfilled quarry floor. The volumes of this pool at the beginning and end of the evaluation period were estimated based upon conversations with Mr. Randy Anderson. The volume of the leachate pool was approximately 18,000,000 gallons at the beginning of September 1989 and approximately 2,600,000 gallons at the end of June 1990. Approximately 3,050,000 gallons of leachate evaporated from the leachate pool. Thus, approximately 12,350,000 gallons of leachate were pumped from storage during the evaluation period. The leachate storage calculations are provided in Attachment E.

Waste Absorption

According to Mr. Mike Whitlock, the landfill accepted 1,299,367 truck yards of waste during the evaluation period. A compaction ratio of 1.25 was used to calculate 1,040,000 cubic yards of in-place waste.

Solid municipal waste has an absorptive capacity of approximately 30 gallons of liquid per cubic yard. This assumes no channelling through the compacted waste which is not realistic field condition. Therefore, a 50% absorptive capacity was used for the calculations.

Based upon the above information and assumptions, 15,500,000 gallons of liquid was absorbed by the waste during the evaluation period. The waste absorption calculations are provide in Attachment F.

Water Balance

A water balance equation was used to solve for the unobserved groundwater inflow. The calculated unobserved groundwater inflow was 50,078,000 gallons during the evaluation period or approximately 100 gallons per minute. This equation and calculations are provided in Attachment G.

The flow rate of unobserved groundwater inflow correlates well with the flow rate of former estimated discharge from the "crack" on the east corner of the former quarry. Thus, it is possible that the grout curtain has failed and/or groundwater has found a pathway(s) around the grout curtain.

CONCLUSIONS

Several sources of water contribute to the leachate in the active landfill area. These sources include direct precipitation, surface water runoff and groundwater flow. The direct precipitation can not be controlled. However, by modifying the configuration, cover, and vegetation on the landfill, the amount of infiltration via precipitation can be reduced. Surface water runoff from the eastern area should be eliminated with the recent completion of the culvert beneath Old St. Charles Rock Road. Without remedial action, surface water runoff from the on-site areas will continue to be a problem until filling occurs above the quarry walls. Groundwater inflow will be a problem during site operations, closure and post-closure.

RECOMMENDATIONS

Foth & Van Dyke recommends the following:

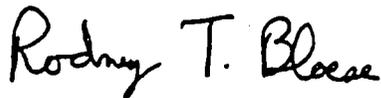
- *Evaluate the potential options to reduce or eliminate surface water run off from the on-site areas.
- *Evaluate the cost versus the potential success of pressure grouting selected observed groundwater inflows.
- *Evaluate the potential success of eliminating or reducing unobserved groundwater inflow.
- *Evaluate the potential options to reduce infiltration from precipitation in the permitted landfill area.

CLOSING COMMENTS

If you have any questions regarding this evaluation, please contact us.

Very truly yours,

Foth & Van Dyke



Rodney T. Bloese, C.P.G.
Senior Project Hydrogeologist



Katie Roberts, P.E.
Project Engineer

RTB/dlc

CC: Randy Anderson, Laidlaw Waste Systems, Inc. (w/attachments)
Scott Schreiber, Laidlaw Waste Systems, Inc. (w/attachments)
Tim Weyenberg, Foth & Van Dyke (w/attachments)

ATTACHMENT A
LEACHATE PUMPAGE

Foth & Van Dyke

Client: Laidlaw Scope I.D.: 89246
Project: Bridgeton Water Balance Page: 1 of 1
Prepared by: RTB Date: 7/6/90
Checked by: KJR Date: 8/23/90

Amount of Leachate Pumped
Information from Mike Whitlock

<u>Month</u>	<u>Amount (Gallons)</u>
9-89	6462000
10-89	9694000
11-89	9039000
12-89	9499000
1-90	9833000
2-90	6013000
3-90	12181000
4-90	8516000
5-90	8745000
6-90	9696000
Total	<u>89678,000</u>

Monthly average for 10 months 9 million gallons

ATTACHMENT B
PRECIPITATION

Precipitation onto Landfill

Using Climatological Data for Lumbert Field
 precipitation for months of August September
 1989 through ~~June~~ May 1990. 33 Acre Site

Month	Precip (Inches)	Volume (Gallons)
9-89	1.69	1,500,000
10-89	0.95	850,000
11-89	0.59	530,000
12-89	0.69	620,000
1-90	1.42	1,300,000
2-90	3.53	3,200,000
3-90	2.66	2,400,000
4-90	3.07	2,800,000
5-90	9.59	8,600,000
6-90	<u>3.02</u>	2,700,000
7-90	<u>27.21</u>	
Total		<u>24,500,000 Gallons</u>

ATTACHMENT C
OBSERVED GROUNDWATER INFLOW

Foth & Van Dyke

Client: Laidlaw Scope I.D.: 89C46
 Project: Bridgeton water Balance Page: 1 of 1
 Prepared by: RTB Date: 7/6/90
 Checked by: KJR Date: 8/23/90

Observed Groundwater Inflow into Landfill
 From November 8, 1989 Memorandum - RTB

<u>Seep</u>	<u>Approximate Flow (Gal/Hr)</u>	<u>Approximate Flow (Gal/Mo)</u>
Shallow	120	87600
#1	120	87600
#2	900	637000
#3	60	43800
#4	430*	21900
#5	450	329000
		<u>Total 1,230,000</u>

* Assume 30 Gal/Hr for Seep #4

Nine solution features exhibiting flow
 Assume 30 Gal/Hr flow for each feature

$$9 \times 30 = 270 \text{ Gal/Hr}$$

$$270 \text{ Gal/Hr} \times 730 \text{ Hr} = 200,000 \text{ Gal/Mo}$$

1,230,000

200,000

1,400,000 Gal / Month

ATTACHMENT D

EASTERN AND ON-SITE AREAS RUNOFF CALCULATIONS

Foth & Van Dyke

Client: Laidlaw Scope I.D.: 89246
Project: Bridgeton Water Balance Page: 1 of 4
Prepared by: RTB Date: 7/6/90
Checked by: KJR Date: 8/23/90

Drainage from Eastern and On-Site
Watersheds

Eastern Drainage Area (feet)

$$\left[(210)(770) \frac{1}{2} + \left(\frac{770+880}{2} \right) (430) + (900)(925) \right]$$

$$\underline{43560}$$

$$= 29 \text{ Acres}$$

On-Site Drainage Area (feet)

$$\left[(530)(480) + (200)(200) + \left(\frac{620+440}{2} \right) (240) + (1220)(680) \right]$$

$$+ \left(\frac{680+400}{2} \right) (150) + (1230)(160) + (280)(190) \left(\frac{1}{2} \right)$$

$$+ (190)(550) + (190)(350) \left(\frac{1}{2} \right) \right] \div 43560$$

$$= 39 \text{ Acres}$$

3 Process Water Lagoons in Area

$$\left[(200 \times 60) + (250 \times 60) + \pi (125^2) \right]$$

$$\underline{43560}$$

$$= 2 \text{ Acres}$$

\therefore Total On-Site Drainage Area is

$$37 \text{ Acres}$$

Eastern Area
 Soil Groups from St. Louis County Soil Survey

Mentfro
 Freeberg

Hydrologic Soil Groups of these soils
 from Urban Hydrology for Small Watersheds
 Technical Release No 55

Mentfro - Group B
 Freeberg - Group C

From Table 2-2 of Tech Release No 55 (TR-55)
 curve numbers (CNs) were obtained

Mentfro	
without conservation treatment	51
with conservation treatment	71
Freeberg	
without conservation treatment	58
with conservation treatment	78

Assume 50% of year in each condition
 Mentfro & Freeberg are approximately
 50% of watershed

$$\text{Average CN is } \frac{(51 + 71 + 58 + 78)}{4} = 80$$

On-Site Area

Assume CN of 85 for Gravel Area
 (from TR-55) for 20.5 acres
 CN of 70 for landfill cover
 for 16.5 acres

$$\text{Average CN} = 78$$

Runoff Calculations
 Eastern Area CN = 80

Month	Calculation ^(a) Runoff Depth X Acreage	Amount (Gal)
9/89	0.03" x 29 acres	16,000
10/89	0.01" x 29 acres	8,000
11/89	—	—
12/89	—	—
1/890	0.01" x 29 acres	8,000
2/890	0.07" x 29 acres	55,000
	0.07" x 29 acres	55,000
	0.05" x 29 acres	39,000
3/890	0.02" x 29 acres	16,000
4/890	0.045" x 29 acres	35,000
	0.01" x 29 acres	8,000
	0.01" x 29 acres	8,000
5/890	0.12" x 29 acres	94,000
	0.15" x 29 acres	118,000
	1.74" x 29 acres	1,370,000
	0.01" x 29 acres	8,000
6/90	0.05" x 29 acres	39,000
	0.15" x 29 acres	142,000
	0.01" x 29 acres	8,000

10 Month Total 2,030,000 Gallons

(a) Rainfall event information was obtained from Lambert Field records. Using Table 2-1 in the Urban Hydrology for Small Watersheds - Technical Release No. 55 - for CN = 80 and extrapolating between table values, the runoff depth for the storm events was obtained.

Runoff Calculations
 On-Site Area CN = 78

Month	Calculation (a) <u>Runoff Depth x Acreage</u>	Amount (Gal)
9/89	0.01" x 37 acres	10,000
10/89	—	—
11/89	—	—
12/89	—	—
1/90	—	—
2/90	0.05" x 37 acres	50,000
	0.05" x 37 acres	50,000
	0.04" x 37 acres	40,000
3/90	0.01" x 37 acres	10,000
4/90	0.03" x 37 acres	30,000
	0.02" x 37 acres	20,000
5/90	0.09" x 37 acres	90,000
	0.12" x 37 acres	120,000
	1.60" x 37 acres	1,610,000
6/90	0.04" x 37 acres	40,000
	0.15" x 37 acres	150,000

10 Month Total 2,220,000 Gal.

(a) Rainfall event information was obtained from Lambert Field records. Using Table 2-1 in the Urban Hydrology for Small Watersheds - Technical Release No. 55, for CN = 78 and extrapolating between table values, the runoff depth for the storm events was obtained.

ATTACHMENT E
LEACHATE STORAGE CALCULATIONS

Storage

September 1989

Approximate size of leachate body
 400 feet x 600 feet = 240000 ft²
 = 5.5 acres

Assume 10 feet of leachate
 5.5 acres x 10 feet = 55 acre-feet
 = 18,000,000 Gallons

July 1990
 Approximate size of leachate body

= 2 acres
 Assume 4 feet of leachate
 2 acres x 4 feet = 8 acre-feet
 = 2,600,000 Gallons

$$\begin{array}{r} 18,000,000 \\ - 2,600,000 \\ \hline 15,400,000 \text{ Gallons} \end{array}$$

Evaporation from storage -
 Mean annual lake evaporation = 36 inches
 (40 CFR Part 300, App. A)
 10 months = 30 inches
 Average surface area $\frac{5.5 \text{ acres} + 2 \text{ acres}}{2} = 3.75 \text{ acres}$
 $3.75 \text{ acres} \times 30 \text{ inches} = 3,050,000 \text{ gallons}$
 \therefore Pumped from storage = 12,350,000 gallons

ATTACHMENT F
WASTE ABSORPTION CALCULATIONS

Waste Volume
 September 1989 through June 1990
 1,299,367 truck yards (per
 Mike Whitlock)
 Compaction Ratio of 1.25

$$\frac{1,300,000 \text{ cubic yards}}{\text{Landfill Yards}} = 1.25$$

1,040,000 cubic yards in landfill

One ^{cubic} yard of Refuse has absorptive capacity of approximately 30 gallons of water - assuming no channeling, etc.

∴ The refuse from 9/89 through 6/90 could absorb 31,000,000 gallons of liquid (water)

Assuming 50% capacity at this time, yields 15,500,000 gallons absorbed

ATTACHMENT G
WATER BALANCE EQUATION AND CALCULATIONS

Water Balance Equation

$$\text{Outflow} = \text{Precipitation} + \text{Groundwater Inflow (observed)} + \text{Groundwater Inflow (unobserved)} + \text{Runoff (eastern area)} + \text{Runoff (onsite)} + \text{Storage} - \text{Absorption by Refuse}$$

For 10 month period (Sept 1989 through June 1990) - Gallons

$$89,678,000 = 24,500,000 + 14,000,000 + \text{Groundwater Inflow (unobserved)} + 2,030,000 + 2,220,000 + 12,350,000 - 15,500,000$$

$$89,678,000 = 39,600,000 + \text{Groundwater Inflow (unobserved)}$$

$$\text{Groundwater Inflow (unobserved)} = 50,078,000 \text{ Gallons}$$

$$50,078,000 \text{ Gal} / 10 \text{ months}$$

$$= 164,000 \text{ Gal} / \text{Day}$$

$$= 6800 \text{ Gal} / \text{Hour}$$

$$= 113 \text{ Gal} / \text{Minute}$$

Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. - Florissant, MO 63033 - 314-921-4488



MR. MIKE WHITLOCK
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

PAGE NO : 1
REPORT NO : 40346
DATE : 09/29/90
P.O. No. : 215090

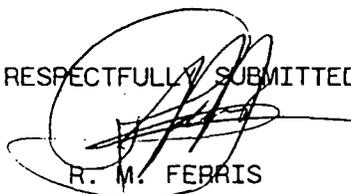
REPORT OF ANALYSIS

SUBJECT : Analysis of waste samples in accordance with SW-846: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods, 3rd Edition, 1986; where applicable.

LOG NUMBER	SAMPLE DESCRIPTION
1200717	UNTRT. LEACH. 9/12CR
Z200717	UNTRT. LEACH. 9/12CR
1200718	TRTD. LEACH. 9/12 CR
Z200718	TRTD. LEACH. 9/12 CR

RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED



R. M. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



LIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 40346
DATE : 09/29/90

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1200717	UNTRT. LEACH. 9/12cr	TCLP EXTRACTION	Vol.55, #61	Fed.Reg
		TCLP SEMI-VOLATILES	1	
		2,4,5TRICHLOROPHENOL	<0.50	mg/l
		2,4,6TRICHLOROPHENOL	<0.10	mg/l
		CRESOL	<0.30	mg/l
		1,4-DICHLORO BENZENE	<0.10	mg/l
		2,4-DINITROTOLUENE	<0.10	mg/l
		HEXACHLOROBUTADIENE	<0.10	mg/l
		HEXACHLORO BENZENE	<0.10	mg/l
		HEXACHLOROETHANE	<0.10	mg/l
		m-CRESOL	<0.10	mg/l
		NITROBENZENE	<0.10	mg/l
		o-CRESOL	<0.10	mg/l
		PENTACHLOROPHENOL	<0.50	mg/l
		p-CRESOL	<0.10	mg/l
		PYRIDINE	<5.0	mg/l
		TCLP METALS	1	
		TCLP Silver	<0.005	mg Ag/l
		TCLP Arsenic	0.034	mg As/l
		TCLP Barium	1.3	mg Ba/l
		TCLP Cadmium	<0.010	mg Cd/l
		TCLP Chromium	0.033	mg Cr/l
		TCLP Mercury	<0.0005	mg Hg/l
		TCLP Lead	<0.005	mg Pb/l
		TCLP Selenium	<0.011	mg Se/l
		TCLP HERBICIDES	1	
		2,4-D	<0.0025	mg/l
		2,4,5-TP (SILVEX)	<0.0025	mg/l
		TCLP PESTICIDES	1	
		CHLORDANE	<0.0008	mg/l
		ENDRIN	<0.00008	mg/l
		HEPTACHLOR	<0.00008	mg/l
		HEPTACHLOR HYDROXIDE	<0.00008	mg/l
		LINDANE	<0.00008	mg/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



LIDLAW WASTE SYSTEM

PAGE NO : 3
 REPORT NO : 40346
 DATE : 09/29/90

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1200717	UNTRT. LEACH. 9/12cr	METHOXYCHLOR	<0.0015	mg/l
		TOXAPHENE	<0.0016	mg/l
1200718	TRTD. LEACH. 9/12 cr	TCLP EXTRACTION	Vol.55, #61	Fed.Reg
		TCLP SEMI-VOLATILES	1	
		2,4,5TRICHLOROPHENOL	<0.50	mg/l
		2,4,6TRICHLOROPHENOL	<0.10	mg/l
		CRESOL	<0.30	mg/l
		1,4-DICHLOROBENZENE	<0.10	mg/l
		2,4-DINITROTOLUENE	<0.10	mg/l
		HEXACHLOROBUTADIENE	<0.10	mg/l
		HEXACHLOROBENZENE	<0.10	mg/l
		HEXACHLOROETHANE	<0.10	mg/l
		m-CRESOL	<0.10	mg/l
		NITROBENZENE	<0.10	mg/l
		o-CRESOL	<0.10	mg/l
		PENTACHLOROPHENOL	<0.50	mg/l
		p-CRESOL	<0.10	mg/l
		PYRIDINE	<5.0	mg/l
		TCLP METALS	1	
		TCLP Silver	<0.005	mg Ag/l
		TCLP Arsenic	<0.005	mg As/l
		TCLP Barium	<1.0	mg Ba/l
		TCLP Cadmium	<0.012	mg Cd/l
		TCLP Chromium	0.020	mg Cr/l
		TCLP Mercury	<0.0005	mg Hg/l
		TCLP Lead	<0.005	mg Pb/l
		TCLP Selenium	<0.008	mg Se/l
		TCLP HERBICIDES	1	
		2,4-D	<0.0025	mg/l
		2,4,5-TP (SILVEX)	<0.0025	mg/l
		TCLP PESTICIDES	1	
		CHLORDANE	<0.0008	mg/l
		ENDRIN	<0.00008	mg/l
		HEPTACHLOR	<0.00008	mg/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



LIDLAW WASTE SYSTEM

PAGE NO : 4
REPORT NO : 40346
DATE : 09/29/90

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1200718	TRTD. LEACH. 9/12 cr	HEPTACHLOR HYDROXIDE	<0.00008	mg/l
		LINDANE	<0.00008	mg/l
		METHOXYCHLOR	<0.0015	mg/l
		TOXAPHENE	<0.0016	mg/l
2200717	UNTRT. LEACH. 9/12cr	ZERO HEADSPACE EXT.	1	
		ZERO HEADSPACE VOLS.	1	
		BENZENE	<0.025	mg/l
		CHLOROBENZENE	<0.025	mg/l
		CHLOROFORM	<0.025	mg/l
		CARBON TETRACHLORIDE	<0.025	mg/l
		1,2-DICHLOROETHANE	<0.025	mg/l
		1,1-DICHLOROETHYLENE	<0.025	mg/l
		METHYL ETHYL KETONE	<0.25	mg/l
		TETRACHLOROETHYLENE	<0.025	mg/l
		TRICHLOROETHYLENE	<0.025	mg/l
		VINYL CHLORIDE	<0.050	mg/l
2200718	TRTD. LEACH. 9/12 cr	ZERO HEADSPACE EXT.	1	
		ZERO HEADSPACE VOLS.	1	
		BENZENE	<0.025	mg/l
		CHLOROBENZENE	<0.025	mg/l
		CHLOROFORM	<0.025	mg/l
		CARBON TETRACHLORIDE	<0.025	mg/l
		1,2-DICHLOROETHANE	<0.025	mg/l
		1,1-DICHLOROETHYLENE	<0.025	mg/l
		METHYL ETHYL KETONE	<0.25	mg/l
		TETRACHLOROETHYLENE	<0.025	mg/l
		TRICHLOROETHYLENE	<0.025	mg/l
		VINYL CHLORIDE	<0.050	mg/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>LADLAW WASTE SYSTEMS</u>	Bottle	<u>6x 19oz gals</u>	Preservative	<u>Cool to 4°C</u>	Tests Requested	<u>TCLP</u>
Address	<u>Bridgeton Landfill</u> <u>13570 ST. Charles Rock Rd</u> <u>Bridgeton, MO 63044</u>						
Contact	<u>Mr. Mike Whitlock</u>						
Telephone	<u>(314) 739-1919</u>						
Sample Identification	<u>UNTREATED LEACHATE</u>						
Date/Time Collected	<u>09/12/90 13:05</u>						
Sample Type	<u>UNTREATED LEACHATE</u>						
Collected By (Signature)	<u>Jim Killestad</u>	<u>6</u>		Total Bottles			

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc.

Laboratory Log Number 1200717

Sample Received By (signature) James M. Killestad

Date/Time 09-12-90 17:45

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
TCLP Pb	<u>Wm Killestad</u>	<u>9-17-90 1559</u>			
TCLP Ag	<u>Wm Killestad</u>	<u>9-18-90 1141</u>			
TCLP Ca	<u>Greg Schuler</u>	<u>9-18 3:11</u>			
TCLP Cd	<u>Greg Schuler</u>	<u>9-20 2:48</u>			
TCLP Hg	<u>Greg Schuler</u>	<u>9-19 1:45</u>			
TCLP Cr	<u>Wm Killestad</u>	<u>9-21 9:25</u>			
TCLP As	<u>Wm Killestad</u>	<u>9-28-90 1332</u>			
<u>2HE Vol</u>	<u>K. Brown</u>	<u>9-19 1449</u>			
<u>TCLP SV</u>	<u>K. Brown</u>	<u>9-18 1647</u>			
<u>TP PS</u>	<u>S. Sanchez</u>	<u>9-19 1200</u>			
<u>TK HB</u>	<u>S. Sanchez</u>	<u>9-14 1300</u>			

REPORT OF ANALYSIS

Lab #1: Report No. 40346

Date: 9/29/90

Signature: [Signature]

Title: _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



October 8, 1990

Mr. Ronald Darling
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

Dear Mr. Darling,

The following measurements were made on the leachate sumps at the Laidlaw - Bridgeton Landfill on August 31, 1990.

<u>SUMP DESIGNATION</u>		<u>DEPTH OF LIQUID, FT</u>
K 100		28.86
K 123	<i>Had To Buy Pump</i>	38.47
K 124	<i>never had a problem with this well in the past</i>	25.93
K 128	<i>CP.</i>	21.08

If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,


Chris L. Segafredo
Project Manager

CLS/jr

cc: Randy Anderson (Laidlaw)
Scott Schreiber (Laidlaw)
Miles Stotts (Laidlaw)

OCT 15 1990



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



MR. MIKE WHITLOCK
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

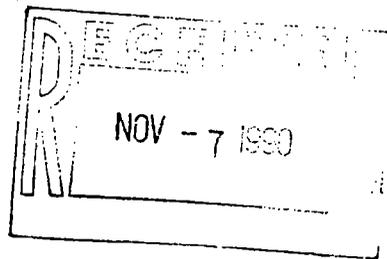
PAGE NO : 1
REPORT NO : 40575
DATE : 10/20/90
P.O. No. : 223130

REPORT OF ANALYSIS

SUBJECT : Analysis of waste samples in accordance with SW-846: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods, 3rd Edition, 1986; where applicable.

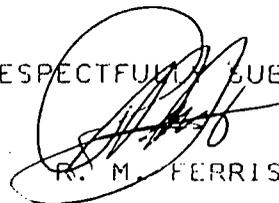
LOG NUMBER
1202820

SAMPLE DESCRIPTION
TRTD LEACH 9/29/90 C



RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


R. M. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



LAIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 40575
DATE : 10/20/90

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1202820	TRTD LEACH 9/29/90 c	Arsenic	<0.005	mg As/l
		Barium	<0.7	mg Ba/l
		B.O.D. (5-day)	11.4	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	110	mg/l
		Chromium	0.007	mg Cr/l
		Copper	0.012	mg Cu/l
		Iron	1.25	mg Fe/l
		Mercury	<0.0002	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead	<0.005	mg Pb/l
		pH Value	8.03	pH Unit
		Selenium	<0.005	mg Se/l
		Technician Charges	3	man-hrs
		Zinc	<0.005	mg Zn/l



Environmental Analysis, Inc.

3278 N Lindbergh Blvd. Florissant, MO 63033 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>Laidlaw Waste Systems</u>	Bottle	Preservative	Tests Requested
Address	<u>Bridgeton Landfill 1/2 Pt. Plast.</u> <u>13570 St. Charles Rock Rd. Qt. Plast.</u> <u>Bridgeton, MO 63044 Pt. Plast.</u>		<u>H2so4, Cool</u> <u>Cool to 4 C</u> <u>HN03</u>	<u>COD</u> <u>PH, BOD</u> <u>As, Ba, Cd, Cr, Cu,</u> <u>Fe, Pb, Hg, Ni, Se,</u> <u>Zn</u>
Contact	<u>Mr. Mike Whitlock</u>			
Telephone	<u>(314) 739-1919</u>			
Sample Identification	<u>TRTD LEACH 9/29 C</u>			
Date/Time Collected	<u>9-29-90/1600</u>			
Sample Type	<u>Treated Leachate</u>			
Collected By (Signature)	<u>JEBergin</u>	<u>3</u>	Total Bottles	

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc.		Laboratory Log Number <u>1202820</u>			
Sample Received By (signature) <u>JEBergin</u>		Date/Time <u>9-29-90/1640</u>			
Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
<u>pH</u>	<u>[Signature]</u>	<u>9-28/500</u>			
<u>Fe, ⁶³Co</u>	<u>[Signature]</u>	<u>10-2 2:24</u>			
<u>Cr, Cd</u>	<u>[Signature]</u>	<u>10-3 12:58</u>			
<u>Ba</u>	<u>[Signature]</u>	<u>10-4 1:18</u>			
<u>Pb</u>	<u>[Signature]</u>	<u>10-10-90 0751</u>			
<u>Cu, Zn</u>	<u>[Signature]</u>	<u>10-8 1:00</u>			
<u>Ni</u>	<u>[Signature]</u>	<u>10-9 8:52</u>			
<u>CO₂</u>	<u>[Signature]</u>	<u>10-10 12:00</u>			
<u>BOD</u>	<u>[Signature]</u>	<u>10-1 3:40</u>			
<u>As</u>	<u>[Signature]</u>	<u>10-15-90 1033</u>			
<u>SE</u>	<u>[Signature]</u>	<u>10-17-90 0921</u>			
<u>Hg</u>	<u>[Signature]</u>	<u>10-17 1:12</u>			

REPORT OF ANALYSIS

Lab #1: Report No. 40575 Date: 10/20/90 Signature: [Signature]
 Title: _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



October 25, 1990

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from the Laidlaw - Bridgeton Landfill. This report is for the sample collected in September, 1990. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber
Dennis Wike



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



MR. RANDY ANDERSON
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

PAGE NO : 1
REPORT NO : 40972
DATE : 11/15/90
P.O. No. : 223305

REPORT OF ANALYSIS

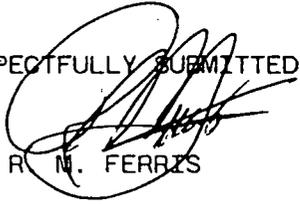
SUBJECT : Analysis of waste samples in accordance with SW-846: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods, 3rd Edition, 1986; where applicable.

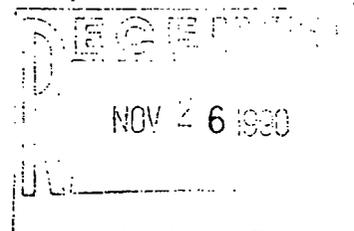
LOG NUMBER
1206210

SAMPLE DESCRIPTION
TRTD LEACH 10/31/90C

RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


R. M. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488

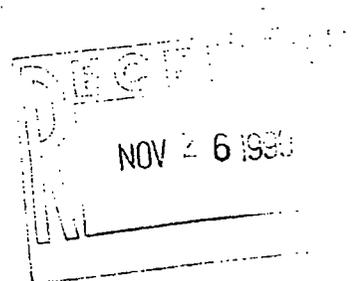


LAIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 40972
DATE : 11/15/90

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1206210	TRTD LEACH 10/31/90c	Arsenic	<0.005	mg As/l
		Barium	<0.7	mg Ba/l
		B.O.D. (5-day)	8.2	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	92.2	mg/l
		Chromium	<0.005	mg Cr/l
		Copper	0.013	mg Cu/l
		Iron	0.73	mg Fe/l
		Mercury	<0.0002	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead (GTF)	0.018	mg Pb/l
		pH Value	7.95	pH Unit
		Selenium	<0.005	mg Se/l
		Technician Charges	5	man-hrs
		Zinc	<0.005	mg Zn/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>Laidlaw Waste Systems</u>	Bottle	<u>1/2 Pt Plast</u>	Preservative	<u>H2SO4, Cool</u>	Tests Requested	<u>COD</u>
Address	<u>Bridgeton Landfill</u>		<u>Pt Plast</u>		<u>HNO3</u>		<u>Metals</u>
	<u>13570 St. Charles Rock Rd</u>		<u>Qt Plast</u>		<u>Cool to 4°C</u>		<u>pH, BOD</u>
	<u>Bridgeton, MO 63044</u>						
Contact	<u>Mr. Mike Whitlock</u>						
Telephone	<u>(314) 739-1919</u>						
Sample Identification	<u>TRTD LEACH</u>						
Date/Time Collected	<u>10-31-90/1415</u>						
Sample Type	<u>Treated Leachate</u>						
Collected By (Signature)	<u>JEB</u>	<u>3</u>		Total Bottles			

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 1206210

Sample Received By (signature) JEB Date/Time 10-31-90/1500

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
<u>COD</u>	<u>M Kothman</u>	<u>10-20-2:00</u>			
<u>Ba</u>	<u>M Kothman</u>	<u>11-2 8:42am</u>			
<u>Cu, Zn, Fe</u>	<u>M Kothman</u>	<u>11-5 3:49am</u>			
<u>pH</u>	<u>JEB</u>	<u>10-31/400</u>			
<u>PNi</u>	<u>M Kothman</u>	<u>11-6 12:54am</u>			
<u>BOD</u>	<u>M Kothman</u>	<u>10-31/2:00</u>			
<u>Cr, Cd</u>	<u>M Kothman</u>	<u>11-7 3:05am</u>			
<u>Hg</u>	<u>M Kothman</u>	<u>11-9 2:11am</u>			
<u>USE</u>	<u>Wm Brown</u>	<u>11-13-90 1102</u>			
<u>AS</u>	<u>Wm Brown</u>	<u>11-13-90 1624</u>			

REPORT OF ANALYSIS

Lab #1: Report No. 40972 Date: 11/15/90 Signature: [Signature] Title: _____

NOV 26 1990



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



November 20, 1990

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from the Laidlaw - Bridgeton Landfill. This report is for the sample collected in October, 1990. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber
Dennis Wike
Bill Reed

NOV 6 1990



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



MR. RANDY ANDERSON
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

PAGE NO : 1
REPORT NO : 41364
DATE : 12/13/90
P.O. No. :

REPORT OF ANALYSIS

SUBJECT : Analysis of water and/or wastewater samples in accordance with Standard Methods for the Examination of Water and Wastewater, 16th Edition, 1985.

LOG NUMBER	SAMPLE DESCRIPTION
1210217	TRTD LEACH 11/30/90C

RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


R. J. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



LAWLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 41364
DATE : 12/13/90

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1210217	TRTD LEACH 11/30/90c	Arsenic	<0.005	mg As/l
		Barium	<0.7	mg Ba/l
		B.O.D. (5-day)	64.3	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	86.2	mg/l
		Chromium	0.008	mg Cr/l
		Copper	0.042	mg Cu/l
		Iron	0.96	mg Fe/l
		Mercury	<0.0002	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead	0.012	mg Pb/l
		pH Value	7.95	pH Unit
		Selenium	<0.005	mg Se/l
		Technician Charges	3	man-hrs
		Zinc	0.009	mg Zn/l



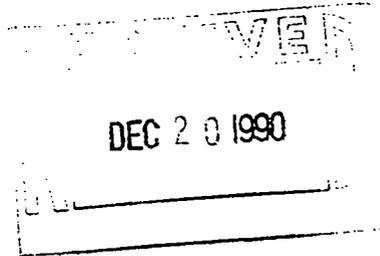
Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



December 18, 1990

Mr. Randy Anderson
Laidlaw Waste Systems, Inc.
Bridgeton Landfill
13570 St. Charles Rock Rd.
Bridgeton, MO 63044



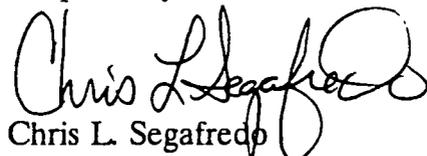
Dear Randy,

Enclosed are the environmental monitoring reports listed below.

1. Laidlaw - Bridgeton Landfill, Bridgeton, MO.
 - * Treated Leachate Laboratory Reports (November, 1990)
 - * Sump - Liquid Level Report to St. Louis County Public Health (cc)
 - * Transmittal Letter to St. Louis MSD (cc)

If you have any questions concerning any of the information enclosed, please call me at (314) 921-4488.

Respectfully submitted,


Chris L. Segafredo
Project Manager



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



December 6, 1990

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from the Laidlaw - Bridgeton Landfill. This report is for the sample collected in November, 1990. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted

A handwritten signature in black ink, appearing to read 'Chris L. Segafredo', is written over the typed name.

Chris L. Segafredo
Project Manager

cc: Randy Anderson (Laidlaw)
Scott Schreiber (Laidlaw)
Dennis Wike (Laidlaw)
Bill Reed (Laidlaw)



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



December 6, 1990

Mr. Steve Tulles
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

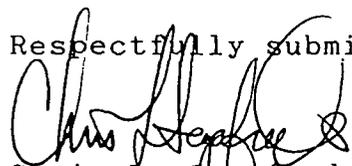
Dear Mr. Darling,

The following measurements were made on the leachate sumps at the Laidlaw - Bridgeton Landfill on November 30, 1990.

<u>SUMP DESIGNATION</u>	<u>DEPTH OF LIQUID, FT</u>
K 100	17.11
K 123	26.50
K 124	2.32
K 128	22.61

If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,



Chris L. Segafredo
Project Manager

cc: Randy Anderson (Laidlaw)
Scott Schreiber (Laidlaw)
Dennis Wike (Laidlaw)
Bill Reed (Laidlaw)



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



MR. MIKE WHITLOCK
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

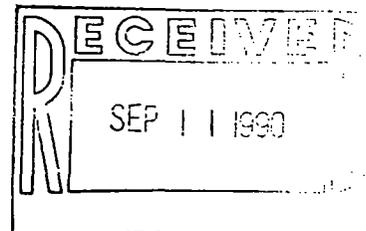
PAGE NO : 1
REPORT NO : 40007
DATE : 09/05/90
P.O. No. : 214942

REPORT OF ANALYSIS

SUBJECT : Analysis of water and/or wastewater samples in accordance with Standard Methods for the Examination of Water and Wastewater, 16th Edition, 1985.

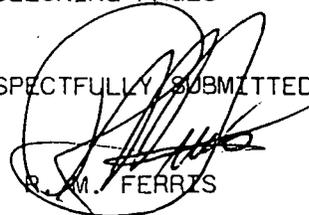
LOG NUMBER
1128733

SAMPLE DESCRIPTION
TRTD LEACH 8/21/90 C



RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


R. M. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488

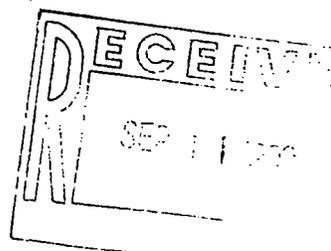


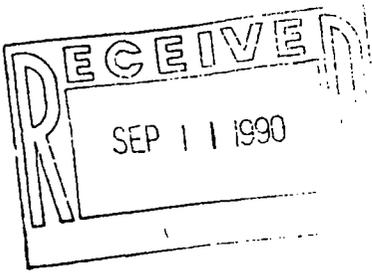
LIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 40007
DATE : 09/05/90

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1128733	TRTD LEACH 8/21/90 c	Arsenic	<0.005	mg As/l
		Barium	<0.7	mg Ba/l
		B.O.D. (5-day)	138	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	244	mg/l
		Chromium	<0.006	mg Cr/l
		Copper	0.009	mg Cu/l
		Iron	2.07	mg Fe/l
		Mercury	<0.0002	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead	<0.005	mg Pb/l
		pH Value	7.93	pH Unit
		Selenium	<0.005	mg Se/l
		Technician Charges	4	man-hrs
		Zinc	<0.005	mg Zn/l





Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>Laidlaw Waste Systems</u>	Bottle	Preservative	Tests Requested
Address	<u>Bridgeton Landfill 1/2 Pt. Plast.</u> <u>13570 St. Charles Rock Rd. Qt. Plast.</u> <u>Bridgeton, MO 63044 Pt. Plast.</u>		<u>H2so4, Cool</u> <u>Cool to 4 C</u> <u>HNDS</u>	<u>COD</u> <u>PH, BOD</u> <u>As, Ba, Cd, Cr, Cu,</u> <u>Fe, Pb, Hg, Ni, Se,</u> <u>Zn</u>
Contact	<u>Mr. Mike Whitlock</u>			
Telephone	<u>(314) 739-1919</u>			
Sample Identification				
Date/Time Collected	<u>8-21-90 / 1323</u>			
Sample Type	<u>Treated Leachate</u>			
Collected By (Signature)	<u>[Signature]</u>	<u>3</u>	Total Bottles	

LABORATORY RECORD

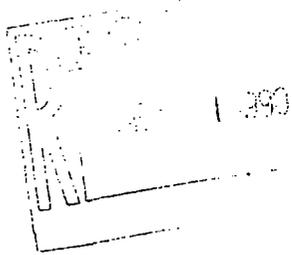
Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 1128733
Sample Received By (signature) [Signature] Date/Time 8-21-90 / 1410

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
<u>ph</u>	<u>[Signature]</u>	<u>8-21-90 11:00</u>			
<u>SE</u>	<u>[Signature]</u>	<u>8-23-90 1558</u>			
<u>Fe</u>	<u>[Signature]</u>	<u>8-22 3:50</u>			
<u>Cu, Ni, Zn</u>	<u>[Signature]</u>	<u>8-23 2:59</u>			
<u>BOD</u>	<u>[Signature]</u>	<u>8-27-90 12:00</u>			
<u>Cr, Cd</u>	<u>[Signature]</u>	<u>8-24 3:18</u>			
<u>COD</u>	<u>[Signature]</u>	<u>8-28 2:00</u>			
<u>PB</u>	<u>[Signature]</u>	<u>8-27-90 1355</u>			
<u>AS</u>	<u>[Signature]</u>	<u>8-30-90 1600</u>			
<u>Ba</u>	<u>[Signature]</u>	<u>8-28 10:00</u>			
<u>Hg</u>	<u>[Signature]</u>	<u>8-30 1:41</u>			

REPORT OF ANALYSIS

Lab #1: Report No. 40007 **Date:** 9/5/90 **Signature:** [Signature]
Title: _____





Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



September 6, 1990

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from the Laidlaw - Bridgeton Landfill. This report is for the sample collected in August, 1990. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber
Miles Stotts





Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



September 4, 1990

Mr. Ronald Darling
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

Dear Mr. Darling,

The following measurements were made on the leachate sumps at the Laidlaw - Bridgeton Landfill on August 31, 1990.

<u>SUMP DESIGNATION</u>	<u>DEPTH OF LIQUID, FT</u>
K 100	24.56
K 123	1.87
K 124	5.20
K 128	22.72

If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,

Chris L. Segalredo
Project Manager

CLS/jr

cc: Mike Whitlock (Laidlaw)
Scott Schreiber (Laidlaw)
Miles Stotts (Laidlaw)



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



MR. MIKE WHITLOCK
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

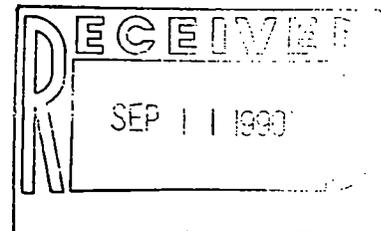
PAGE NO : 1
REPORT NO : 40007
DATE : 09/05/90
P.O. No. : 214942

REPORT OF ANALYSIS

SUBJECT : Analysis of water and/or wastewater samples in accordance with Standard Methods for the Examination of Water and Wastewater, 16th Edition, 1985.

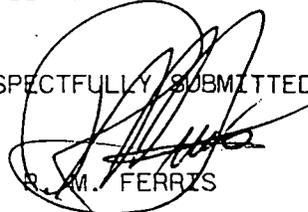
LOG NUMBER
1128733

SAMPLE DESCRIPTION
TRTD LEACH 8/21/90 C



RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


R. M. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488

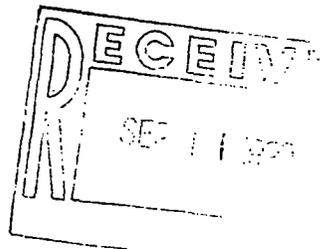


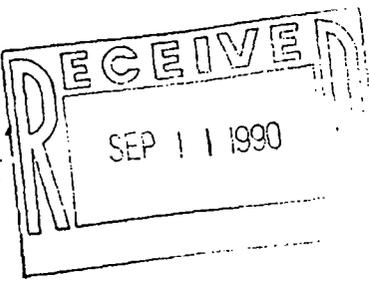
LIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 40007
DATE : 09/05/90

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1128733	TRTD LEACH 8/21/90 c	Arsenic	<0.005	mg As/l
		Barium	<0.7	mg Ba/l
		B.O.D. (5-day)	138	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	244	mg/l
		Chromium	<0.006	mg Cr/l
		Copper	0.009	mg Cu/l
		Iron	2.07	mg Fe/l
		Mercury	<0.0002	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead	<0.005	mg Pb/l
		pH Value	7.93	pH Unit
		Selenium	<0.005	mg Se/l
		Technician Charges	4	man-hrs
		Zinc	<0.005	mg Zn/l





Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>Laidlaw Waste Systems</u>	Bottle	<u>1/2 Pt. Plast.</u>	Preservative	<u>H2so4, Cool</u>	Tests Requested	<u>COD</u>
Address	<u>Bridgeton Landfill</u>	<u>1/2 Pt. Plast.</u>	<u>H2so4, Cool</u>	<u>PH, BOD</u>	<u>As, Ba, Cd, Cr, Cu,</u>	<u>Fe, Pb, Hg, Ni, Se,</u>	<u>Zn</u>
	<u>13570 St. Charles Rock Rd.</u>	<u>Qt. Plast.</u>	<u>Cool to 4 C</u>				
	<u>Bridgeton, MO 63044</u>	<u>Pt. Plast.</u>	<u>HNO3</u>				
Contact	<u>Mr. Mike Whitlock</u>						
Telephone	<u>(314) 739-1919</u>						
Sample Identification							
Date/Time Collected	<u>8-21-90 / 1323</u>						
Sample Type	<u>Treated Leachate</u>						
Collected By (Signature)	<u>[Signature]</u>	<u>3</u>	Total Bottles				

LABORATORY RECORD

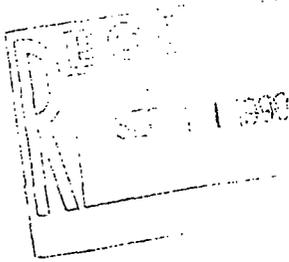
Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 1128733
 Sample Received By (signature) [Signature] Date/Time 8-21-90 / 1410

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
PH	<u>[Signature]</u>	<u>8-21-90 11:00</u>			
SE	<u>[Signature]</u>	<u>8-23-90 15:58</u>			
Fe	<u>[Signature]</u>	<u>8-22 7:50</u>			
Cu, Ni, Zn	<u>[Signature]</u>	<u>8-23 2:59</u>			
BOD	<u>[Signature]</u>	<u>8-27-90 12:00</u>			
Cr, Cd	<u>[Signature]</u>	<u>8-24 3:18</u>			
COO	<u>[Signature]</u>	<u>8-28 2:00</u>			
PB	<u>[Signature]</u>	<u>8-27-90 13:55</u>			
AS	<u>[Signature]</u>	<u>8-30-90 16:00</u>			
Ba	<u>[Signature]</u>	<u>8-28 10:00</u>			
Hg	<u>[Signature]</u>	<u>8-30 1:41</u>			

REPORT OF ANALYSIS

Lab #1: Report No. 40007 Date: 9/5/90 Signature: [Signature]
 Title: _____





Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



September 6, 1990

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from the Laidlaw - Bridgeton Landfill. This report is for the sample collected in August, 1990. If you have any questions, please contact me at (314) 921-4488.

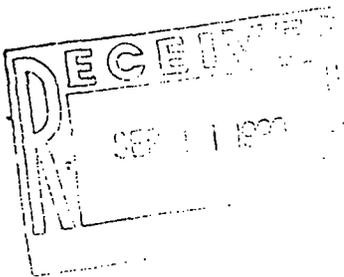
Respectfully submitted

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber
Miles Stotts





Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



September 4, 1990

Mr. Ronald Darling
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

Dear Mr. Darling,

The following measurements were made on the leachate sumps at the Laidlaw - Bridgeton Landfill on August 31, 1990.

<u>SUMP DESIGNATION</u>	<u>DEPTH OF LIQUID, FT</u>
K 100	24.56
K 123	1.87
K 124	5.20
K 128	22.72

If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,

Chris L. Segalredo
Project Manager

CLS/jr

cc: Mike Whitlock (Laidlaw)
Scott Schreiber (Laidlaw)
Miles Stotts (Laidlaw)



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



MR. MIKE WHITLOCK
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

PAGE NO : 1
REPORT NO : 40346
DATE : 09/29/90
P.O. No. : 215090

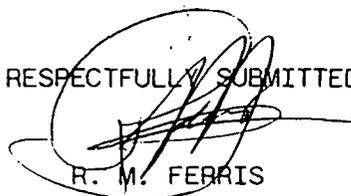
REPORT OF ANALYSIS

SUBJECT : Analysis of waste samples in accordance with SW-84
6: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods, 3rd Edition, 1986; where applicable.

LOG NUMBER	SAMPLE DESCRIPTION
1200717	UNTRT. LEACH. 9/12CR
Z200717	UNTRT. LEACH. 9/12CR
1200718	TRTD. LEACH. 9/12 CR
Z200718	TRTD. LEACH. 9/12 CR

RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


R. M. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



LAIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 40346
DATE : 09/29/90

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1200717	UNTRT. LEACH. 9/12cr	TCLP EXTRACTION	Vol.55, #61	Fed.Reg
		TCLP SEMI-VOLATILES	1	
		2,4,5TRICHLOROPHENOL	<0.50	mg/l
		2,4,6TRICHLOROPHENOL	<0.10	mg/l
		CRESOL	<0.30	mg/l
		1,4-DICHLOROBENZENE	<0.10	mg/l
		2,4-DINITROTOLUENE	<0.10	mg/l
		HEXACHLOROBUTADIENE	<0.10	mg/l
		HEXACHLOROBENZENE	<0.10	mg/l
		HEXACHLOROETHANE	<0.10	mg/l
		m-CRESOL	<0.10	mg/l
		NITROBENZENE	<0.10	mg/l
		o-CRESOL	<0.10	mg/l
		PENTACHLOROPHENOL	<0.50	mg/l
		p-CRESOL	<0.10	mg/l
		PYRIDINE	<5.0	mg/l
		TCLP METALS	1	
		TCLP Silver	<0.005	mg Ag/l
		TCLP Arsenic	0.034	mg As/l
		TCLP Barium	1.3	mg Ba/l
		TCLP Cadmium	<0.010	mg Cd/l
		TCLP Chromium	0.033	mg Cr/l
		TCLP Mercury	<0.0005	mg Hg/l
		TCLP Lead	<0.005	mg Pb/l
		TCLP Selenium	<0.011	mg Se/l
		TCLP HERBICIDES	1	
		2,4-D	<0.0025	mg/l
		2,4,5-TP (SILVEX)	<0.0025	mg/l
		TCLP PESTICIDES	1	
		CHLORDANE	<0.0008	mg/l
		ENDRIN	<0.00008	mg/l
		HEPTACHLOR	<0.00008	mg/l
		HEPTACHLOR HYDROXIDE	<0.00008	mg/l
		LINDANE	<0.00008	mg/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



LIDLAW WASTE SYSTEM

PAGE NO : 3
REPORT NO : 40346
DATE : 09/29/90

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1200717	UNTRT. LEACH. 9/12cr	METHOXYCHLOR	<0.0015	mg/l
		TOXAPHENE	<0.0016	mg/l
1200718	TRTD. LEACH. 9/12 cr	TCLP EXTRACTION	Vol.55, #61	Fed.Reg
		TCLP SEMI-VOLATILES	1	
		2,4,5TRICHLOROPHENOL	<0.50	mg/l
		2,4,6TRICHLOROPHENOL	<0.10	mg/l
		CRESOL	<0.30	mg/l
		1,4-DICHLOROENZENE	<0.10	mg/l
		2,4-DINITROTOLUENE	<0.10	mg/l
		HEXACHLOROBUTADIENE	<0.10	mg/l
		HEXACHLOROBENZENE	<0.10	mg/l
		HEXACHLOROETHANE	<0.10	mg/l
		m-CRESOL	<0.10	mg/l
		NITROBENZENE	<0.10	mg/l
		o-CRESOL	<0.10	mg/l
		PENTACHLOROPHENOL	<0.50	mg/l
		p-CRESOL	<0.10	mg/l
		PYRIDINE	<5.0	mg/l
		TCLP METALS	1	
		TCLP Silver	<0.005	mg Ag/l
		TCLP Arsenic	<0.005	mg As/l
		TCLP Barium	<1.0	mg Ba/l
		TCLP Cadmium	<0.012	mg Cd/l
		TCLP Chromium	0.020	mg Cr/l
		TCLP Mercury	<0.0005	mg Hg/l
		TCLP Lead	<0.005	mg Pb/l
		TCLP Selenium	<0.008	mg Se/l
		TCLP HERBICIDES	1	
		2,4-D	<0.0025	mg/l
		2,4,5-TP (SILVEX)	<0.0025	mg/l
		TCLP PESTICIDES	1	
		CHLORDANE	<0.0008	mg/l
		ENDRIN	<0.00008	mg/l
		HEPTACHLOR	<0.00008	mg/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



LAIDLAW WASTE SYSTEM

PAGE NO : 4
REPORT NO : 40346
DATE : 09/29/90

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1200718	TRTD. LEACH. 9/12 cr	HEPTACHLOR HYDROXIDE	<0.00008	mg/l
		LINDANE	<0.00008	mg/l
		METHOXYCHLOR	<0.0015	mg/l
		TOXAPHENE	<0.0016	mg/l
2200717	UNTRT. LEACH. 9/12cr	ZERO HEADSPACE EXT.	1	
		ZERO HEADSPACE VOLS.	1	
		BENZENE	<0.025	mg/l
		CHLOROBENZENE	<0.025	mg/l
		CHLOROFORM	<0.025	mg/l
		CARBON TETRACHLORIDE	<0.025	mg/l
		1,2-DICHLOROETHANE	<0.025	mg/l
		1,1-DICHLOROETHYLENE	<0.025	mg/l
		METHYL ETHYL KETONE	<0.25	mg/l
		TETRACHLOROETHYLENE	<0.025	mg/l
		TRICHLOROETHYLENE	<0.025	mg/l
		VINYL CHLORIDE	<0.050	mg/l
2200718	TRTD. LEACH. 9/12 cr	ZERO HEADSPACE EXT.	1	
		ZERO HEADSPACE VOLS.	1	
		BENZENE	<0.025	mg/l
		CHLOROBENZENE	<0.025	mg/l
		CHLOROFORM	<0.025	mg/l
		CARBON TETRACHLORIDE	<0.025	mg/l
		1,2-DICHLOROETHANE	<0.025	mg/l
		1,1-DICHLOROETHYLENE	<0.025	mg/l
		METHYL ETHYL KETONE	<0.25	mg/l
		TETRACHLOROETHYLENE	<0.025	mg/l
		TRICHLOROETHYLENE	<0.025	mg/l
		VINYL CHLORIDE	<0.050	mg/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>LAIDLAW WASTE SYSTEMS</u>	Bottle	<u>6x 1904 g's</u>	Preservative	<u>cool to 4°C</u>	Tests Requested	<u>TCLP</u>
Address	<u>Bridgeton Landfill 13570 ST. Charles Rock Rd Bridgeton, Mo 63044</u>						
Contact	<u>Mr. Mike Whitlock</u>						
Telephone	<u>(314) 739-1919</u>						
Sample Identification	<u>UNTREATED LEACHATE</u>						
Date/Time Collected	<u>09/12/90 13:05</u>						
Sample Type	<u>UNTREATED LEACHATE</u>						
Collected By (Signature)	<u>Jim Killestad</u>	<u>6</u>				Total Bottles	

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 1200717

Sample Received By (signature) James M. Killestad Date/Time 09-12-90 12:45

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
TCLP PB	<u>Wm Killestad</u>	<u>9-17-90 1559</u>			
TCLP AG	<u>Wm Killestad</u>	<u>9-18-90 1141</u>			
TCLP Ba	<u>Greg Schickel</u>	<u>9-18 3:11</u>			
TCLP Cd	<u>Greg Schickel</u>	<u>9-20 2:48</u>			
TCLP Hg	<u>Greg Schickel</u>	<u>9-19 1:45</u>			
TCLP Cr	<u>Greg Schickel</u>	<u>9-21 9:25</u>			
from TCLP Pb	<u>Wm Killestad</u>	<u>9-28-90 1332</u>			
2-HEV01	<u>K. Brown</u>	<u>9-19 1449</u>			
TCLP SV	<u>K. Brown</u>	<u>9-18 1647</u>			
TP PS	<u>S. Sanchez</u>	<u>9-19 1200</u>			
TH-HB	<u>S. Sanchez</u>	<u>9-19 1300</u>			

REPORT OF ANALYSIS

Lab #: Report No. 40346 Date: 9/29/90 Signature: [Signature]
 Title: _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



October 8, 1990

Mr. Ronald Darling
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

Dear Mr. Darling,

The following measurements were made on the leachate sumps at the Laidlaw - Bridgeton Landfill on August 31, 1990.

<u>SUMP DESIGNATION</u>	<u>DEPTH OF LIQUID, FT</u>
K 100	28.86
K 123	38.47
K 124	25.93
K 128	21.08

*Had To Buy
Pump
never had a problem
with this. The
well in the
past
E.A.*

If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,


Chris L. Segafredo
Project Manager

CLS/jr

cc: Randy Anderson (Laidlaw)
Scott Schreiber (Laidlaw)
Miles Stotts (Laidlaw)



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



MR. MIKE WHITLOCK
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

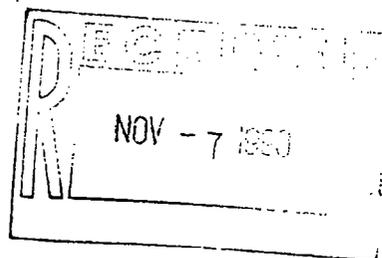
PAGE NO : 1
REPORT NO : 40575
DATE : 10/20/90
P.O. No. : 223130

REPORT OF ANALYSIS

SUBJECT : Analysis of waste samples in accordance with SW-846: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods, 3rd Edition, 1986; where applicable.

LOG NUMBER
1202820

SAMPLE DESCRIPTION
TRTD LEACH 9/29/90 C



RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


R. M. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



LAWLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 40575
DATE : 10/20/90

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1202820	TRTD LEACH 9/29/90 c	Arsenic	<0.005	mg As/l
		Barium	<0.7	mg Ba/l
		B.O.D. (5-day)	11.4	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	110	mg/l
		Chromium	0.007	mg Cr/l
		Copper	0.012	mg Cu/l
		Iron	1.25	mg Fe/l
		Mercury	<0.0002	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead	<0.005	mg Pb/l
		pH Value	8.03	pH Unit
		Selenium	<0.005	mg Se/l
		Technician Charges	3	man-hrs
		Zinc	<0.005	mg Zn/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. Florissant, MO 63033 · 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>Laidlaw Waste Systems</u>	Bottle	Preservative	Tests Requested
Address	<u>Bridgeton Landfill 1/2</u> <u>13570 St. Charles Rock Rd.</u> <u>Bridgeton, MO 63044</u>	<u>Pt. Plast.</u> <u>Qt. Plast.</u> <u>Pt. Plast.</u>	<u>H2so4, Cool</u> <u>Cool to 4 C</u> <u>HNO3</u>	<u>COD</u> <u>PH, BOD</u> <u>As, Ba, Cd, Cr, Cu,</u> <u>Fe, Pb, Hg, Ni, Se,</u> <u>Zn</u>
Contact	<u>Mr. Mike Whitlock</u>			
Telephone	<u>(314) 739-1919</u>			
Sample Identification	<u>TRTD LEACH 9/29 C</u>			
Date/Time Collected	<u>9-29-90/1600</u>			
Sample Type	<u>Treated Leachate</u>			
Collected By (Signature)	<u>JEBergin</u>	<u>3</u>	Total Bottles	

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc.			Laboratory Log Number <u>1202820</u>		
Sample Received By (signature) <u>JEBergin</u>			Date/Time <u>9-29-90/1640</u>		
Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
<u>pH</u>	<u>[Signature]</u>	<u>9-28/500</u>			
<u>Fe, ⁶⁵Co</u>	<u>[Signature]</u>	<u>10-2 2:24</u>			
<u>Cr, Cd</u>	<u>[Signature]</u>	<u>10-3 12:58</u>			
<u>Ba</u>	<u>[Signature]</u>	<u>10-4 1:18</u>			
<u>Pb</u>	<u>[Signature]</u>	<u>10-10-90 0751</u>			
<u>Cu, Zn</u>	<u>[Signature]</u>	<u>10-8 1:00</u>			
<u>Ni</u>	<u>[Signature]</u>	<u>10-9 8:52</u>			
<u>COD</u>	<u>[Signature]</u>	<u>10-10 12:22</u>			
<u>BOD</u>	<u>[Signature]</u>	<u>10-1 3:10</u>			
<u>As</u>	<u>[Signature]</u>	<u>10-15-90 1033</u>			
<u>SE</u>	<u>[Signature]</u>	<u>10-17-90 0921</u>			
<u>Hg</u>	<u>[Signature]</u>	<u>10-17 1:12</u>			

REPORT OF ANALYSIS

Lab #1: Report No. 40575 **Date:** 10/20/90 **Signature:** [Signature]
Title: _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



October 25, 1990

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from the Laidlaw - Bridgeton Landfill. This report is for the sample collected in September, 1990. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted

A handwritten signature in black ink, appearing to read 'Chris L. Segafredo', written over a horizontal line.

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber
Dennis Wike



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



MR. RANDY ANDERSON
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

PAGE NO : 1
REPORT NO : 40972
DATE : 11/15/90
P.O. No. : 223305

REPORT OF ANALYSIS

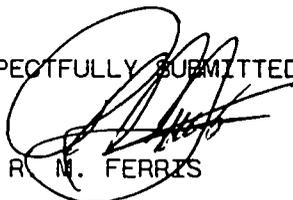
SUBJECT : Analysis of waste samples in accordance with SW-846: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods, 3rd Edition, 1986; where applicable.

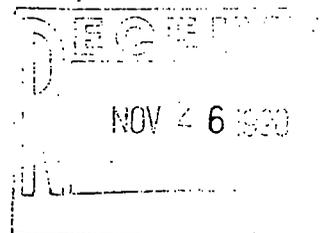
LOG NUMBER
1206210

SAMPLE DESCRIPTION
TRTD LEACH 10/31/90C

RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


R. M. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488

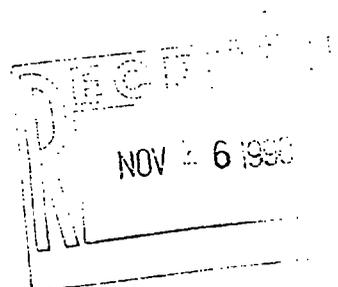


LIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 40972
DATE : 11/15/90

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1206210	TRTD LEACH 10/31/90c	Arsenic	<0.005	mg As/l
		Barium	<0.7	mg Ba/l
		B.O.D. (5-day)	8.2	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	92.2	mg/l
		Chromium	<0.005	mg Cr/l
		Copper	0.013	mg Cu/l
		Iron	0.73	mg Fe/l
		Mercury	<0.0002	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead (GTF)	0.018	mg Pb/l
		pH Value	7.95	pH Unit
		Selenium	<0.005	mg Se/l
		Technician Charges	5	man-hrs
		Zinc	<0.005	mg Zn/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>Laidlaw Waste Systems</u>	Bottle	Preservative	Tests Requested
Address	<u>Bridgeton Landfill</u> <u>13570 St. Charles Rock Rd</u> <u>Bridgeton, MO 63044</u>	<u>1/2 Pt Plast</u> <u>Pt Plast</u> <u>Q.t. Plast</u>	<u>H2SO4, Cool</u> <u>HNO3</u> <u>Cool to 4°C</u>	<u>COD</u> <u>Metals</u> <u>pH, BOD</u>
Contact	<u>Mr. Mike Whitlock</u>			
Telephone	<u>(314) 739-1919</u>			
Sample Identification	<u>TRTD LEACH</u>			
Date/Time Collected	<u>10-31-90/1415</u>			
Sample Type	<u>Treated Leachate</u>			
Collected By (Signature)	<u>JEB</u>	<u>3</u>	Total Bottles	

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 1206210

Sample Received By (signature) JEB Date/Time 10-31-90/1500

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
COD	<u>M. Kothmann</u>	<u>10-02-2:00</u>			
Ba	<u>M. Kothmann</u>	<u>11-2 8:42am</u>			
Cu, Zn, Fe	<u>M. Kothmann</u>	<u>11-5 3:48am</u>			
pH	<u>JEB</u>	<u>10-31/400</u>			
T.N.	<u>M. Kothmann</u>	<u>11-6 12:57am</u>			
BOD	<u>M. Kothmann</u>	<u>10-31/2:00</u>			
Cr, Cd	<u>M. Kothmann</u>	<u>11-7 3:05am</u>			
Hg	<u>M. Kothmann</u>	<u>11-9 2:11am</u>			
USE	<u>M. Kothmann</u>	<u>11-13-90 1102</u>			
AS	<u>M. Kothmann</u>	<u>11-13-90 1624</u>			

REPORT OF ANALYSIS

Lab #1: Report No. 40972 Date: 11/15/90 Signature: [Signature] Title: _____

NOV 26 1990



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



November 20, 1990

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from the Laidlaw - Bridgeton Landfill. This report is for the sample collected in October, 1990. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted

Chris L. Segafredo
Project Manager

CLS/jr

cc: Mike Whitlock
Scott Schreiber
Dennis Wike
Bill Reed

NOV 26 1990



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



MR. RANDY ANDERSON
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

PAGE NO : 1
REPORT NO : 41364
DATE : 12/13/90
P.O. No. :

REPORT OF ANALYSIS

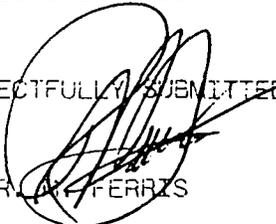
SUBJECT : Analysis of water and/or wastewater samples in accordance with Standard Methods for the Examination of Water and Wastewater, 16th Edition, 1985.

LOG NUMBER
1210217

SAMPLE DESCRIPTION
TRTD LEACH 11/30/90

RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


R. J. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



LAWLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 41364
DATE : 12/13/90

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1210217	TRTD LEACH 11/30/90c	Arsenic	<0.005	mg As/l
		Barium	<0.7	mg Ba/l
		B.O.D. (5-day)	54.3	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	86.2	mg/l
		Chromium	0.006	mg Cr/l
		Copper	0.042	mg Cu/l
		Iron	0.96	mg Fe/l
		Mercury	<0.0002	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead	0.012	mg Pb/l
		pH Value	7.95	pH Unit
		Selenium	<0.005	mg Se/l
		Technician Charges	3	man-hrs
		Zinc	0.009	mg Zn/l



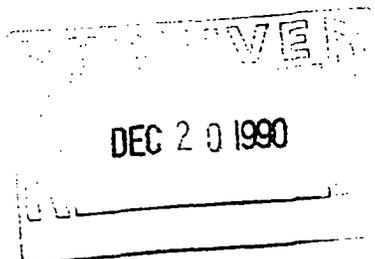
Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



December 18, 1990

Mr. Randy Anderson
Laidlaw Waste Systems, Inc.
Bridgeton Landfill
13570 St. Charles Rock Rd.
Bridgeton, MO 63044



Dear Randy,

Enclosed are the environmental monitoring reports listed below.

1. Laidlaw - Bridgeton Landfill, Bridgeton, MO.
 - * Treated Leachate Laboratory Reports (November, 1990)
 - * Sump - Liquid Level Report to St. Louis County Public Health (cc)
 - * Transmittal Letter to St. Louis MSD (cc)

If you have any questions concerning any of the information enclosed, please call me at (314) 921-4488.

Respectfully submitted,


Chris L. Segafredo
Project Manager



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



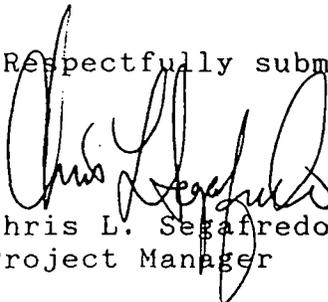
December 6, 1990

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from the Laidlaw - Bridgeton Landfill. This report is for the sample collected in November, 1990. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted



Chris L. Segafredo
Project Manager

cc: Randy Anderson (Laidlaw)
Scott Schreiber (Laidlaw)
Dennis Wike (Laidlaw)
Bill Reed (Laidlaw)



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



December 6, 1990

Mr. Steve Tulles
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

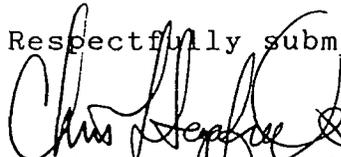
Dear Mr. Darling,

The following measurements were made on the leachate sumps at the Laidlaw - Bridgeton Landfill on November 30, 1990.

<u>SUMP DESIGNATION</u>	<u>DEPTH OF LIQUID, FT</u>
K 100	17.11
K 123	26.50
K 124	2.32
K 128	22.61

If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,



Chris L. Segafredo
Project Manager

cc: Randy Anderson (Laidlaw)
Scott Schreiber (Laidlaw)
Dennis Wike (Laidlaw)
Bill Reed (Laidlaw)



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



MR. RANDY ANDERSON
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

PAGE NO : 1
REPORT NO : 41739
DATE : 01/10/91
P.O. No. : 235884

REPORT OF ANALYSIS

SUBJECT : Analysis of waste samples in accordance with SW-846: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods, 3rd Edition, 1986; where applicable.

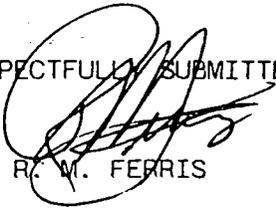
LOG NUMBER
1213607

SAMPLE DESCRIPTION
TRTD LEACH 12/31/90

JAN 29 1991

RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


R. W. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



LAIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 41739
DATE : 01/10/91

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1213607	TRTD LEACH 12/31/90c	Arsenic	<0.005	mg As/l
		Barium	<0.7	mg Ba/l
		B.O.D. (5-day)	10.0	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	100	mg/l
		Chromium	0.010	mg Cr/l
		Copper	0.008	mg Cu/l
		Iron	2.60	mg Fe/l
		Mercury	0.0004	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead	<0.005	mg Pb/l
		pH Value	8.05	pH Unit
		Selenium	<0.005	mg Se/l
		Technician Charges	3	man-hrs
		Zinc	0.025	mg Zn/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>LADLAW WASTE Systems</u>	Bottle	<u>Preservative</u>	Tests Requested
Address	<u>WESTLAKE LANDFILL</u>	<u>2 Pt. Plast.</u>	<u>Cool to 4C</u>	<u>BOD, PH</u>
	<u>P.O. BOX 1162</u>	<u>1 Pt. Plast.</u>	<u>HNO₃</u>	<u>As, BA, Cd, Cr, Cu, Fe,</u>
	<u>S. ROXANA, ILL. 62087</u>	<u>1 Pt. Plast.</u>	<u>H₂SO₄, Cool</u>	<u>Pb, Hg, NI, SE, ZN</u>
Contact	<u>Mr. Mike Whitlock</u>			<u>COD</u>
Telephone	<u>(314) 739-1919</u>			
Sample Identification	<u>TREATED LEACHATE</u>			
Date/Time Collected	<u>12/31/90 - 12:30</u>			
Sample Type	<u>TREATED LEACHATE</u>			
Collected By (Signature)	<u>Jim Killestad</u>	<u>3</u>	<u>Total Bottles</u>	

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 1213607

Sample Received By (signature) Jim Killestad Date/Time 12/31/90 - 14:25

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
<u>pH</u>	<u>[Signature]</u>	<u>12-31-90</u>			
<u>Bd, Cd</u>	<u>[Signature]</u>	<u>1-2-91 11:27</u>			
<u>BOD</u>	<u>M. Kethen</u>	<u>12-31-90</u>			
<u>COD</u>	<u>M. Kethen</u>	<u>1-3-90 10:00</u>			
<u>Ni, Fe, Cu, Zn</u>	<u>[Signature]</u>	<u>1-3-91 11:25</u>			
<u>SE</u>	<u>Wm Estrom</u>	<u>1-4-91 11:33</u>			
<u>AS</u>	<u>Wm Estrom</u>	<u>1-4-91 07:55</u>			
<u>PB</u>	<u>Wm Estrom</u>	<u>1-4-91 13:14</u>			
<u>Hg</u>	<u>[Signature]</u>	<u>1-9 1:43</u>			

REPORT OF ANALYSIS

Lab #1: Report No. 41739 Date: 1-10-91 Signature: [Signature]
 Title: _____



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



January 24, 1991

JAN 28 1991

Mr. Randy Anderson
Laidlaw Waste Systems, Inc.
Bridgeton Landfill
13570 St. Charles Rock Rd.
Bridgeton, MO 63044

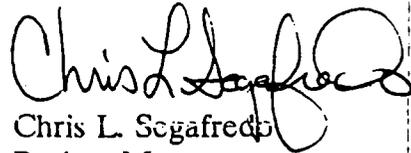
Dear Randy,

Enclosed are the environmental monitoring reports listed below.

- * Laidlaw - Bridgeton Landfill, Bridgeton, MO.
 - * Treated Leachate Monitoring Reports (December, 1990)
 - * Copy of transmittal letter to St. Louis County Public Health, including sump levels.
 - * Copy of transmittal letter to St. Louis Metropolitan Sewer District.

If you have any questions concerning any of the information enclosed, please call me at (314) 921-4488.

Respectfully submitted,


Chris L. Segafredo
Project Manager



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



January 24, 1991

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from the Laidlaw - Bridgeton Landfill. This report is for the sample collected in December, 1990. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted

A handwritten signature in cursive script, reading 'Chris L. Segafredo', is positioned above the typed name.

Chris L. Segafredo
Project Manager

cc: Randy Anderson (Laidlaw)
Dennis Wike (Laidlaw)
Bill Reed (Laidlaw)



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



January 24, 1991

Mr. Steve Tulles
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

Dear Mr. Tulles:

The following measurements were made on the leachate sumps at the Laidlaw - Bridgeton Landfill on December 31, 1990.

SUMP DESIGNATION

DEPTH OF LIQUID, FT

K 100	25.01
K 123	44.02*
K 124	46.52*
K 128	26.14

If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,

Chris L. Segafredo
Project Manager

* Pump and lines were frozen - liquid in sumps could not be pumped due to extreme low temperature.

cc: Randy Anderson (Laidlaw)
William Reed (Laidlaw)
Dennis Wike (Laidlaw)
Brad Bomanz (St. Louis County Public Health)



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. · Florissant, MO 63033 · 314-921-4488



MR. RANDY ANDERSON
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

PAGE NO : 1
REPORT NO : 42306
DATE : 02/20/91
P.O. No. :

REPORT OF ANALYSIS

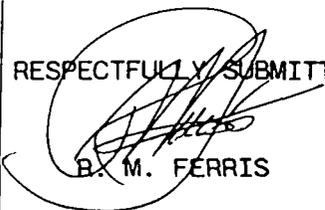
SUBJECT : Analysis of waste samples in accordance with SW-846: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods, 3rd Edition, 1986; where applicable.

LOG NUMBER
1216816

SAMPLE DESCRIPTION
TRTD LEACH 1/30/91 C

RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


B. M. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



LAIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 42306
DATE : 02/20/91

RESULTS OF ANALYSIS

LCG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1216816	TRTD LEACH 1/30/91 c	Arsenic	<0.005	mg As/l
		Barium	<0.7	mg Ba/l
		B.O.D. (5-day)	58.0	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	179	mg/l
		Chromium	0.008	mg Cr/l
		Copper	0.017	mg Cu/l
		Iron	5.18	mg Fe/l
		Mercury	<0.0002	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead (GTF)	<0.005	mg Pb/l
		pH Value	7.59	pH Unit
		Selenium	<0.005	mg Se/l
		Technician Charges	4	man-hrs
		Zinc	0.047	mg Zn/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	<u>Laidlaw Waste Systems</u>	Bottle	<u>1/2 Pt. Plast.</u>	Preservative	<u>H2SO4, Cool</u>	Tests Requested	<u>COD</u>
Address	<u>Bridgeton Landfill</u>	<u>Pt. Plast.</u>	<u>HNO3</u>	<u>Metals</u>	<u>pH, BOD</u>		
	<u>13570 St. Charles Rock Rd.</u>	<u>Qt. Plast.</u>	<u>Cool to 4 C</u>				
	<u>Bridgeton, MO 63044</u>						
Contact	<u>Mr. Mike Whitlock</u>						
Telephone	<u>(314) 739-1919</u>						
Sample Identification	<u>TRTD LEACH 1/30/91 C</u>						
Date/Time Collected	<u>1-30-91/1430</u>						
Sample Type	<u>Treated Leachate</u>						
Collected By (Signature)	<u><i>J. E. Boyer</i></u>	<u>3</u>	Total Bottles				

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 1216816

Sample Received By (signature) *J. E. Boyer* Date/Time 1-30-91/1515

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
<u>pH</u>	<u><i>Mary Holland</i></u>	<u>1-30/1400</u>			
<u>Pb</u>	<u><i>Mary Holland</i></u>	<u>2-1-91 0701</u>			
<u>Cr</u>	<u><i>Mary Holland</i></u>	<u>1-31 1:30</u>			
<u>Cd, Cu, Zn</u>	<u><i>Mary Holland</i></u>	<u>2-1 10:42</u>			
<u>BOD, COD</u>	<u><i>M. Kottler</i></u>	<u>1-30, 1-31/2:00</u>			
<u>As</u>	<u><i>Mary Holland</i></u>	<u>2-4-91 1649</u>			
<u>Ba, Fe</u>	<u><i>Mary Holland</i></u>	<u>2-4 12:35</u>			
<u>Sr</u>	<u><i>Mary Holland</i></u>	<u>2-5-91 1701</u>			
<u>Ni</u>	<u><i>Mary Holland</i></u>	<u>2-7 9:26</u>			
<u>Hg</u>	<u><i>Mary Holland</i></u>	<u>2-20-91 1050</u>			

REPORT OF ANALYSIS

Lab #1: Report No. 42306 Date: 2/20/90 Signature: *[Signature]*
 Title: _____



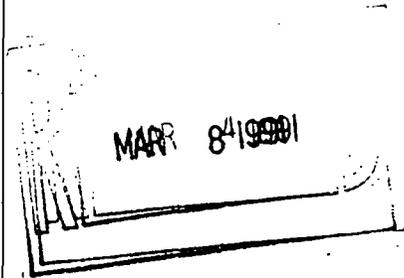
Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



March 6, 1991

Mr. Randy Anderson
Laidlaw Waste Systems, Inc.
Bridgeton Landfill
13570 St. Charles Rock Rd.
Bridgeton, MO 63044



Dear Randy,

Enclosed are the environmental monitoring reports listed below.

- * Laidlaw - Bridgeton Landfill, Bridgeton, MO.
 - * Treated Leachate Monitoring Reports (January, 1991)
 - * Copy of transmittal letter to St. Louis County Public Health, including sump levels.
 - * Copy of transmittal letter to St. Louis Metropolitan Sewer District.

If you have any questions concerning any of the information enclosed, please call me at (314) 921-4488.

Respectfully submitted,

Chris L. Segafredo
Project Manager



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



March 4, 1991

Mr. John Lodderhose
St. Louis Metropolitan Sewer District
#10 East Grand
St. Louis, MO 63147

Dear Mr. Lodderhose:

The enclosed laboratory report represents the analysis of treated leachate from the Laidlaw - Bridgeton Landfill. This report is for the sample collected in January, 1991. If you have any questions, please contact me at (314) 921-4488.

Respectfully submitted


Chris L. Segafredo
Project Manager

cc: Randy Anderson (Laidlaw)
Dennis Wike (Laidlaw)
Bill Reed (Laidlaw)



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



March 4, 1991

Mr. Steve Tullos
Waste Management Section
St. Louis County Dept. of Public Health
801 S. Brentwood Blvd.
Clayton, MO 63105

Dear Mr. Tullos:

The following measurements were made on the leachate sumps at the Laidlaw - Bridgeton Landfill on January 30, 1991.

<u>SUMP DESIGNATION</u>	<u>DEPTH OF LIQUID, FT</u>
K 100	23.56
K 123	41.43*
K 124	23.36
K 128	25.26

* Discharge line broken, due to freezing and thawing.
Pipe fell into sump, will be repaired.

If you have any questions, please call me at (314) 921-4488.

Respectfully submitted,

Chris L. Segafredo
Project Manager

cc: Randy Anderson (Laidlaw)
William Reed (Laidlaw)
Dennis Wike (Laidlaw)



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



MR. RANDY ANDERSON
LAIDLAW WASTE SYSTEM
BRIDGETON LANDFILL
13570 ST. CHARLES ROCK RD
BRIDGETON MO 63044

PAGE NO : 1
REPORT NO : 42564
DATE : 03/11/91
P.O. No. : 242232

REPORT OF ANALYSIS

SUBJECT : Analysis of water and/or wastewater samples in accordance with Standard Methods for the Examination of Water and Wastewater, 16th Edition, 1985.

LOG NUMBER
1220402

SAMPLE DESCRIPTION
TRTD LEACH 2/26/91 C

RESULTS OF ANALYSIS APPEAR ON FOLLOWING PAGES

RESPECTFULLY SUBMITTED


R. M. FERRIS



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



LIDLAW WASTE SYSTEM

PAGE NO : 2
REPORT NO : 42564
DATE : 03/11/91

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
12:20402	TRTD LEACH 2/26/91 c	Arsenic	<0.005	mg As/l
		Barium	0.8	mg Ba/l
		B.O.D. (5-day)	37.2	mg/l
		Cadmium	<0.005	mg Cd/l
		C.O.D.	233	mg/l
		Chromium	0.026	mg Cr/l
		Copper	0.019	mg Cu/l
		Iron	11.9	mg Fe/l
		Mercury	<0.0002	mg Hg/l
		Nickel	<0.05	mg Ni/l
		Lead (GTF)	<0.005	mg Pb/l
		pH Value	7.77	pH Unit
		Selenium	<0.005	mg Se/l
		Temperature	41	deg. F
		Technician Charges	4	man-hrs
		Zinc	0.121	mg Zn/l



Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



SAMPLE CHAIN-OF-CUSTODY RECORD

Client Name	Laidlaw Waste Systems	Bottle		Preservative		Tests Requested	
Address	Bridgeton Landfill 1/2 Pt. Plast.			H2SO4, COOL		COD	
	13570 St. Charles Rock Rd. Pt. Plast.			HNO3		Metals	
	Bridgeton, MO 63044 Qt. Plast.			COOL to 4 C		pH, BOD	
Contact	Mr. Mike Whitlock						
Telephone	(314) 739-1919						
Sample Identification	TRTD LEACH						
Date/Time Collected	2-26-91 / 1230						
Sample Type	Treated Leachate						
Collected By (Signature)	<i>[Signature]</i>	3				Total Bottles	

LABORATORY RECORD

Lab #1 - Environmental Analysis, Inc. Laboratory Log Number 1220402

Sample Received By (signature) *[Signature]* Date/Time 2-26-91 / 1355

Analyses Performed	Analyzed By (signature)	Date/Time Analyzed	Analyses Performed	Analyzed By (signature)	Date/Time Analyzed
pH	<i>[Signature]</i>	2-26-91 / 1420			
PB, BTF	Wm. Brown	2-27-91 / 1421			
Fe	Mary Holland	2-27-91 / 1412			
Ca	Mary Holland	2-28-91 / 1254			
Cr	Mary Holland	3-4-91 / 0757			
BOD	Wm. Brown	3-27-91 / 11402 to 3491			
Ba, Ni	Mary Holland	3-6-91 / 7:42			
Cu, Zn	Mary Holland	3-6-91 / 1942, 1343			
COD	Wm. Brown	2/28/91 / 8:00			
AS	Wm. Brown	3-6-91 / 0730			
Hg	Mary Holland	3-11-91 / 0932			
SE	Wm. Brown	3-12-91 / 1104			

REPORT OF ANALYSIS

Lab #1: Report No. 42564 Date: 3/1/91 Signature: *[Signature]*
 Title: _____

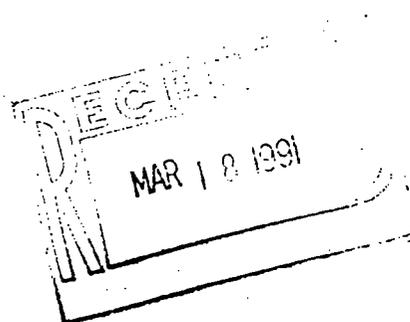


Environmental Analysis, Inc.

3278 N. Lindbergh Blvd. • Florissant, MO 63033 • 314-921-4488



March 14, 1991



Mr. Randy Anderson
Laidlaw Waste Systems, Inc.
Bridgeton Landfill
13570 St. Charles Rock Rd.
Bridgeton, MO 63044

NO REPORTS
ATTACHED

Dear Randy,

Enclosed are the environmental monitoring reports listed below.

1. Laidlaw - Bridgeton Landfill, Bridgeton, MO.

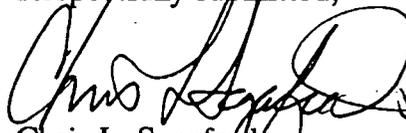
- * Treated Leachate Monitoring Reports (February, 1991)
- * Copy of transmittal letter to St. Louis County Public Health, including sump levels.
- * Copy of transmittal letter to St. Louis Metropolitan Sewer District.

2. Laidlaw - Bridgeton Landfill, Bridgeton, MO.

- * Groundwater Monitoring Laboratory Reports (First Quarter, 1991)
- * Groundwater Monitoring Field Sheets (First Quarter, 1991)
- * Department of Natural Resources-Water Monitoring Reports (First Quarter, 1991)

If you have any questions concerning any of the information enclosed, please call me at (314) 921-4488.

Respectfully submitted,


Chris L. Segafredo
Project Manager

